# Ford simplifies service on Thunderbird, Cougar

By Wes Raynal
AUTOMOTIVE NEWS STAFF REPORTER

Ford Motor Co.'s only all-new cars for 1989 — Thunderbird and Cougar — are the first application of Ford's approach to meeting serviceability challenges in the 1990s.

The changes on Thunderbird/Cougar include color coding some maintenance components for easier identification, elimination of some service functions and improved design.

Ford said improvements on the 1989 Thunderbird and Cougar will make service easier for technicians and customers.

"Our serviceability department is now working with design so we can catch potential serviceability problems in the earliest possible stages," said Donald R. Morgan, manager of Ford's car and light-truck serviceability activity.

On Thunderbird/Cougar, Ford has color-coded in yellow certain commonly used service points, including the secondary hood release latch, engine oil dipstick, engine oil fill cap, power steering reservoir cap, engine coolant cap and washer fluid cap.

Morgan said the color-coding will make it easier for both owner and technician to identify those items.

The two new cars also have a redesigned jack with a wider base. Ford said it requires less effort to operate. Also, tools are no longer required to remove the air filter cover or the headlamp bulbs.

Ford said it is no longer necessary to change the fluid in the Thunderbird/Cougar power steering system or the transmission — manual or automatic — or the transmission linkage, nor is it necessary to lube door hinges or the power steering system, except for the outer tie-rod ends.

Ford also mounted the windshield washer pump next to the wiper motor in the engine compartment, reducing the need to remove the instrument panel during servicing.

Thunderbird and Cougar for 1989 also have platinum-tip spark plugs, which Ford said will not need replacing until 60,000 miles.

Inside the Thunderbird and Cougar, Ford has incorporated a vehicle maintenance monitor, a first for Ford.

It is standard on the Super Coupe and XR-7 and optional on the other Thunderbird and Cougar models. It monitors the drive cycle of the car and then recommends, through a gauge on the instrument panel, the proper oil-change interval for the vehicle based on the driving habits of that particular owner.

On another recent entry, the 1989 Ford Probe, service personnel will be instructed to ship the entire anti-lock braking system back to the factory in the event of a failure and replace it with a new system.

Ford said the entire unit will be replaced because it is too difficult to locate a single problem within the system.

"We're working very hard to change that because the way it is now, if one little component goes bad, we still pay for a whole new system," Morgan said.

The anti-lock braking system is covered under Ford's 6-year/60,000-mile powertrain warranty.

## *Ford fine-tunes computer link to aid dealer repairs*

In addition to vehicle design changes, Ford Motor Co.'s approach to improved serviceability in the 1990s includes an emphasis on diagnostics and training dealership technicians.

As part of that approach, Ford will continue to develop its Service Bay Diagnostic System for all its car lines.

The system, currently being tested on the Lincoln Continental at some Lincoln-Mercury dealerships, links the dealership technician to computers at Ford parts and service division in Dearborn, Mich., in order to help diagnose a service problem.

Donald R. Morgan, manager of Ford car and light-truck serviceability, said the Service Bay Diagnostic System is necessary because it is no longer possible for a technician to keep on top of each bit of service information for all car lines.

He said electronics are especially difficult, making proper diagnosis more important than ever. "This will be the biggest challenge in service going into the 1990s," Morgan said.

Servicing will be particularly difficult for the independent technician, he said. "It costs $10,000 just to buy the shop manuals for all of the models," he said.

"Even if he could afford them, he'd spend all of his time reading, not working."

Ford hopes to have the new system, developed in conjunction with Hewlett-Packard, on-line by the early 1990s.

Ford has a separate training program for dealership technicians who handle electronic diagnostics. They are pre-tested, trained to diagnose Ford's electronic engine control (EEC-IV) system and then are retested.

Ford also is training dealership technicians to handle all repairs on the Yamaha-built, 24-valve, 3-liter V-6, despite earlier reports that the entire engine would be pulled from the vehicle and sent to Yamaha for service. The Yamaha engine powers Ford's new Taurus SHO.

— Wes Raynal

AUTOMOTIVE NEWS/JOE WILSKERS

**Ford parts and service leaving old home**
The former Ford Motor Co. headquarters building on Schaefer Road in Dearborn, Mich., will lose its current tenants. Ford's parts and service division, in about 18 months. The division is scheduled to move across town to offices currently occupied by Ford Motor Credit Co., adjacent to world headquarters. Ford Credit will move to new offices under construction in Dearborn. The old headquarters, which overlooks Ford's Rouge industrial complex, opened in 1928 and served as the company's administrative building until 1956. Its future hasn't been decided, but it could be remodeled to house Ford and other tenants.

# Dealers report increase in shop volume

By Arthur Flax
AUTOMOTIVE NEWS STAFF REPORTER

Service and parts volume at new-car dealerships soared in May and June, compared with the year-earlier months.

In May, shop volume at new-car dealerships was 9.0 percent above business in May 1987, according to the Automotive News Service Index. Shop volume in June was 8.7 percent above that of the year-earlier month.

Service volume during the first half of 1988 outpaced the first six months of 1987 by 6.5 percent. Volume was up sharply in every month except April, when the Service Index registered only a 0.5 percent increase over April 1987.

An Eastern Chevrolet dealer said service volume increased in May because of a strong local economy. In June, he said, "extremely hot weather may have had an effect," on the outlet's service volume increase.

A Midwestern Ford dealer attributed strong May and June service volume to customers bringing cars in for service checks before leaving on vacation.

A Northeastern Chevrolet dealer said his May increase was due to a "customer satisfaction program that is working very well in creating customer loyalty."

**SERVICE INDEX**
**109.0***

| | May, '88 vs. May, '87 | 5 mos., '88 vs. 5 mos., '87 |
|---|---|---|
| Gross Profit on All Labor and P&A Sales | +11.1% | +7.7% |
| Repair Orders Written | +4.2% | +2.0% |
| Total Labor Sales (Customer & Warranty) | +11.2% | +6.8% |
| Shop Parts Sales (Customer & Warranty) | +6.2% | +5.7% |
| Sales of All P&A | +12.3% | +7.7% |

* Survey by Automotive News shows that dealers' service and parts business in May 1988 was 109.0 percent of business in May 1987. Service business in the first 5 months of 1988 was 106.5 percent of business in the corresponding period in 1987.

**SERVICE INDEX**
**108.7***

| | June, '88 vs. June, '87 | 6 mos., '88 vs. 6 mos., '87 |
|---|---|---|
| Gross Profit on All Labor and P&A Sales | +9.7% | +8.0% |
| Repair Orders Written | +4.8% | +2.4% |
| Total Labor Sales (Customer & Warranty) | +9.6% | +7.3% |
| Shop Parts Sales (Customer & Warranty) | +10.5% | +6.6% |
| Sales of All P&A | +9.0% | +8.0% |

* Survey by Automotive News shows that dealers' service and parts business in June 1988 was 108.7 percent of business in June 1987. Service business in the first 6 months of 1988 was 106.5 percent of business in the corresponding period in 1987.

That dealership, however, recorded a decline in shop volume in June as a result of an expansion and remodeling of its service department area.

All service volume indicators in May and June were positive.

Sales of all parts and accessories — on and off premises — led May indicators with an increase of 12.3 percent over the year-earlier month. Shop parts sales (customer-paid and warranty) were up only 6.2 percent, but off-premises parts and accessory sales climbed 16.7 percent.

In June, sales of parts for on-premises repairs and sales to off-premises customers were more evenly balanced. Shop parts sales (customer-paid and warranty) led all June indicators with an increase of 10.5 percent. Sales of all parts and accessories in June were up 9.0 percent, and off-premises sales were up 8.0 percent.

During the first half of 1988, off-premises parts and accessories sales increased 9.1 percent.

# Mr. Transmission links dealers in repair center

By Lindsay Chappell
AUTOMOTIVE NEWS STAFF REPORTER

NASHVILLE, Tenn. — Car dealers who have trouble controlling costs on service operations may have a new solution to their problems.

A Nashville franchising company has begun marketing off-site transmission and engine servicing centers to dealers as investments. The concept unites three or four dealers in various markets as partners in a center, where they can direct their more labor-intensive service orders, including warranty work.

Joseph R. Dockery, president of Automotive Franchise Corp., said the concept is already in operation at one location in South Carolina, where three competing dealers have jointly operated a service facility for the past year.

A second facility in South Carolina is under construction and a third is scheduled to be built later this year in Stockton, Calif.

Automotive Franchise is the publicly traded franchisor of Mr. Transmission, PetroSystems, U.S. TransParts and TuneOmize, all automotive aftermarket operations.

Automotive Franchise suffered a $4.6 million loss last year on revenues of $8.9 million. Dockery said the losses were the result of failed Mr. Transmission franchises in depressed oil-patch markets, chiefly Houston and Baton Rouge, La.

The new program offer dealers a joint-partnership agreement through the company's Mr. Transmission division, a franchise chain of automotive service centers with 150 locations nationally.

The 32-year-old chain historically has drawn its business from retail used-car servicing, but Dockery said dealers were increasingly using the centers to job out engine and transmission work on cars under warranty for faster turnaround.

Dockery, who also is a Pontiac-Isuzu dealer with operations in North and South Carolina, estimated that approximately half of Automotive Franchise's revenue comes from dealer business. He said the trend toward longer warranty coverage has been the chief factor.

"A five-year warranty presents a problem to most dealers," he said. "They have to fix it, and yet there's no profit in it. Ideally, they want to take care of the job and move it out as fast as possible, but a major transmission problem can tie you up for days."

Dealers are currently transporting vehicles from their service departments to a Mr. Transmission center where the work is performed. The cars are then returned for customer pickup, with dealers taking a markup on the cost of the job.

Under the program, a center requires an investment of about $125,000, including building and equipment costs, Dockery said. "Most of that would be leased, meaning start-up costs of about $10,000 to $15,000 per partner," he said. The remaining portion is paid under terms of the lease agreement.

The partners guarantee the center 40 to 45 jobs a month, which makes the center profitable independently of any retail business that comes in, Dockery said.

"Most dealers don't want to deal with engine or transmission work," Dockery said. "It ties up a bay for a week, and the typical bay ought to be doing about $1,200 a day in business.

"The idea of developing a center off site is to free up the shop for higher profit jobs, while still making money on the heavier work at a lower-overhead facility," he said.

"The average transmission rebuilder makes between $650 and $800 a week. The typical dealership doesn't take in enough jobs to afford to keep him," Dockery added. "By combining three or four dealerships, it becomes a profitable operation."

# 1989 EPA mileage specs

| Car Line | Est. MPG City | Hwy | Displ (liters) | Trans | Fuel Sys |
|---|---|---|---|---|---|
| **Two Seaters** | | | | | |
| Alfa Romeo Spider | 21 | 27 | 2.0 | M5 | FI |
| Bertone X1/9 | 23 | 28 | 1.5 | M5 | FI |
| Buick Reatta | 19 | 28 | 3.8 | L4 | FI |
| Cadillac Allante | 15 | 23 | 4.5 | L4 | FI |
| Chevrolet Corvette | 17 | 25 | 5.7 | L4 | FI |
| Chevrolet Corvette | 16 | 25 | 5.7 | M6 | FI |
| Chevrolet Corvette Convertible | 17 | 25 | 5.7 | L4 | FI |
| Chevrolet Corvette Convertible | 16 | 25 | 5.7 | M6 | FI |
| Chrysler TC by Maserati Turbo | 18 | 22 | 2.2 | A3 | FI |
| Chrysler TC by Maserati Turbo | 17 | 21 | 2.5 | A3 | FI |
| Chrysler TC by Maserati Turbo | 17 | 22 | 2.5 | L3 | FI |
| Ferrari Testarossa | 10 | 15 | 4.9 | M5 | FI |
| Ferrari 328 GTS/GTB | 13 | 18 | 3.2 | M5 | FI |
| Honda Civic CRX | 29 | 36 | 1.5 | L4 | FI |
| Honda Civic CRX | 34 | 41 | 1.5 | M5 | FI |
| Honda Civic CRX | 28 | 33 | 1.6 | M5 | FI |
| Honda Civic CRX HF | 45 | 52 | 1.5 | M5 | FI |
| Honda Civic CRX HF | 50 | 56 | 1.5 | M5 | FI |
| Jaguar XJ-S Convertible | 12 | 16 | 5.3 | A3 | FI |
| Maserati Karif | 15 | 20 | 2.8 | M5 | FI |
| Maserati Spyder | 15 | 20 | 2.8 | M5 | FI |
| Mercedes-Benz 560SL | 14 | 17 | 5.6 | A4 | FI |
| Nissan 300ZX | 18 | 26 | 3.0 | L4 | FI |
| Nissan 300ZX Turbo | 17 | 24 | 3.0 | L4 | FI |
| Nissan 300ZX | 17 | 25 | 3.0 | M5 | FI |
| Nissan 300ZX Turbo | 17 | 25 | 3.0 | M5 | FI |
| Subaru XT-DL | 24 | 28 | 1.8 | M5 | FI |
| Toyota MR2 | 22 | 27 | 1.6 | L4 | FI |
| Toyota MR2 | 25 | 30 | 1.6 | L4 | FI |
| Toyota MR2 | 24 | 30 | 1.6 | M5 | FI |
| Toyota MR2 | 26 | 31 | 1.6 | M5 | FI |
| **Whitecompact Cars** | | | | | |
| Ferrari 3.2 Mondial/Cabriolet | 13 | 18 | 3.2 | M5 | FI |
| Maserati 225 | 15 | 20 | 2.8 | M5 | FI |
| Porsche 911 Carrera | 18 | 24 | 3.2 | M5 | FI |
| Porsche 911 Carrera Turbo | 13 | 20 | 3.3 | M5 | FI |
| Porsche 911 Turbo | 14 | 21 | 3.3 | M5 | FI |
| Porsche 928 S4 | 15 | 19 | 5.0 | A4 | FI |
| Porsche 928 S4 | 14 | 22 | 5.0 | M5 | FI |
| Porsche 944 | 18 | 22 | 2.7 | A3 | FI |
| Porsche 944 | 19 | 26 | 2.7 | M5 | FI |
| Porsche 944 Turbo | 19 | 27 | 2.5 | M5 | FI |
| Toyota Celica Convertible | 26 | 32 | 2.0 | L4 | FI |
| Toyota Celica Convertible | 26 | 32 | 2.0 | M5 | FI |
| Volkswagen Cabriolet | 22 | 24 | 1.8 | A3 | FI |
| Volkswagen Cabriolet | 24 | 27 | 1.8 | M5 | FI |
| **Subcompact Cars** | | | | | |
| Acura Integra | 25 | 30 | 1.6 | L4 | FI |
| Acura Integra | 26 | 30 | 1.6 | M5 | FI |
| Alfa Romeo Milano | 18 | 22 | 2.5 | A3 | FI |
| Alfa Romeo Milano | 20 | 24 | 2.5 | M5 | FI |
| Alfa Romeo Milano | 18 | 25 | 3.0 | M5 | FI |
| Aston Martin Lagonda | 8 | 11 | 5.3 | L3 | FI |
| Aston Martin Saloon/Vantage/ Volante | 8 | 11 | 5.3 | L3 | FI |
| Aston Martin Saloon/Vantage/ Volante | 8 | 11 | 5.3 | M5 | FI |
| Audi 80/90 | 23 | 27 | 2.0 | A3 | FI |
| Audi 80/90 | 22 | 30 | 2.0 | M5 | FI |
| Audi 80/90 | 19 | 22 | 2.3 | A3 | FI |
| Audi 80/90 | 20 | 26 | 2.3 | M5 | FI |
| Audi 80/90 Quattro | 18 | 24 | 2.3 | M5 | FI |
| BMW M3 | 17 | 29 | 2.3 | M5 | FI |
| BMW M6 | 10 | 19 | 3.5 | M5 | FI |
| BMW 325i Convertible | 18 | 23 | 2.5 | L4 | FI |
| BMW 325i Convertible | 18 | 24 | 2.5 | M5 | FI |
| BMW 325i/325es | 18 | 22 | 2.5 | L4 | FI |
| BMW 325i/325es | 18 | 23 | 2.5 | M5 | FI |
| BMW 325ix | 19 | 22 | 2.5 | L4 | FI |
| BMW 325ix | 17 | 23 | 2.5 | M5 | FI |
| BMW 635CSi | 15 | 19 | 3.4 | L4 | FI |
| BMW 635CSi | 15 | 23 | 3.4 | M5 | FI |
| Chevrolet Camaro | 19 | 27 | 2.8 | L4 | FI |
| Chevrolet Camaro | 18 | 27 | 2.8 | M5 | FI |
| Chevrolet Camaro | 17 | 26 | 5.0 | L4 | FI |
| Chevrolet Camaro | 16 | 25 | 5.0 | L4 | FI |
| Chevrolet Camaro | 17 | 26 | 5.0 | M5 | FI |
| Chevrolet Camaro | 17 | 25 | 5.0 | M5 | FI |
| Chevrolet Camaro | 17 | 25 | 5.7 | L4 | FI |
| Chevrolet Cavalier Convertible | 20 | 27 | 2.8 | L3 | FI |
| Chevrolet Cavalier Convertible | 18 | 29 | 2.8 | M5 | FI |
| Chrysler Conquest Turbo | 18 | 24 | 2.6 | L4 | FI |
| Chrysler Conquest Turbo | 18 | 22 | 2.6 | M5 | FI |
| Chrysler LeBaron Convertible Turbo | 20 | 28 | 2.2 | M5 | FI |
| Chrysler LeBaron Convertible Turbo | 18 | 23 | 2.5 | A3 | FI |
| Chrysler LeBaron Convertible | 22 | 28 | 2.5 | L3 | FI |
| Chrysler LeBaron Convertible | 23 | 31 | 2.5 | M5 | FI |
| Chrysler LeBaron Convertible Turbo | 18 | 26 | 2.5 | M5 | FI |
| Daihatsu Charade | 38 | 42 | 1.0 | M5 | FI |
| Dodge Colt | 28 | 30 | 1.5 | L3 | FI |
| Dodge Colt | 32 | 38 | 1.5 | M4 | FI |
| Dodge Colt | 30 | 35 | 1.5 | M5 | FI |
| Dodge Colt Turbo | 23 | 29 | 1.6 | M5 | FI |
| Dodge Daytona Turbo | 20 | 28 | 2.2 | M5 | FI |
| Dodge Daytona Turbo | 18 | 23 | 2.5 | A3 | FI |
| Dodge Daytona | 23 | 29 | 2.5 | L3 | FI |
| Dodge Daytona | 24 | 34 | 2.5 | M5 | FI |
| Dodge Daytona Turbo | 20 | 29 | 2.5 | M5 | FI |
| Dodge Shadow Convertible | 24 | 28 | 2.2 | L3 | FI |
| Dodge Shadow Convertible Turbo | 24 | 34 | 2.2 | M5 | FI |
| Dodge Shadow Convertible | 19 | 24 | 2.5 | A3 | FI |
| Dodge Shadow Convertible | 23 | 29 | 2.5 | L3 | FI |
| Ford Festiva | 24 | 34 | 2.5 | M5 | FI |
| Ford Festiva | 38 | 40 | 1.3 | M4 | 2bc |
| Ford Festiva | 39 | 43 | 1.3 | M5 | 2bc |
| Ford Festiva | 30 | 31 | 1.3 | A3 | FI |
| Ford Mustang | 21 | 27 | 2.3 | L4 | FI |
| Ford Mustang | 23 | 29 | 2.3 | M5 | FI |
| Ford Mustang | 17 | 25 | 5.0 | L4 | FI |
| Ford Mustang | 17 | 24 | 5.0 | M5 | FI |
| Geo Metro | 53 | 58 | 1.0 | M5 | FI |
| Geo Metro LSi | 38 | 40 | 1.0 | A3 | FI |
| Geo Metro LSi | 46 | 50 | 1.0 | M5 | FI |
| Geo Spectrum | 31 | 33 | 1.5 | A3 | 2bc |
| Geo Spectrum | 37 | 41 | 1.5 | M5 | 2bc |
| Honda Civic | 27 | 32 | 1.5 | L4 | FI |
| Honda Civic | 34 | 38 | 1.5 | M4 | FI |
| Honda Civic | 31 | 36 | 1.5 | M5 | FI |
| Honda Civic | 28 | 33 | 1.6 | M5 | FI |
| Honda Prelude | 20 | 26 | 2.0 | L4 | 2bc |
| Honda Prelude | 23 | 28 | 2.0 | M5 | 2bc |
| Honda Prelude | 21 | 26 | 2.0 | L4 | FI |
| Honda Prelude | 23 | 26 | 2.0 | M5 | FI |
| Hyundai Excel | 27 | 31 | 1.5 | L3 | 2bc |
| Hyundai Excel | 27 | 33 | 1.5 | M4 | 2bc |
| Hyundai Excel | 28 | 37 | 1.5 | M5 | 2bc |
| Isuzu I-Mark | 31 | 33 | 1.5 | A3 | 2bc |
| Isuzu I-Mark | 33 | 39 | 1.5 | M5 | 2bc |
| Isuzu I-Mark | 37 | 41 | 1.5 | M5 | 2bc |
| Isuzu I-Mark Turbo | 26 | 34 | 1.5 | M5 | FI |
| Isuzu I-Mark | 24 | 32 | 1.6 | M5 | FI |
| Isuzu Impulse Turbo | 20 | 26 | 2.0 | L4 | FI |
| Isuzu Impulse Turbo | 21 | 27 | 2.0 | M5 | FI |
| Isuzu Impulse | 20 | 26 | 2.3 | L4 | FI |
| Isuzu Impulse | 20 | 26 | 2.3 | M5 | FI |
| Jaguar XJ-S | 13 | 17 | 5.3 | A3 | FI |
| Mercury Tracer | 26 | 29 | 1.6 | A3 | FI |
| Mercury Tracer | 28 | 35 | 1.6 | M5 | FI |
| Maserati 430 | 15 | 20 | 2.8 | M5 | FI |
| Mercedes-Benz 190D 2.5 | 28 | 33 | 2.5 | A4 | FI |
| Mercedes-Benz 190E 2.6 | 20 | 23 | 2.6 | A4 | FI |
| Mercedes-Benz 190E 2.6 | 19 | 27 | 2.6 | M5 | FI |
| Mercedes-Benz 300CE | 18 | 22 | 3.0 | A4 | FI |
| Mitsubishi Mirage | 27 | 29 | 1.5 | L3 | FI |
| Mitsubishi Mirage | 32 | 38 | 1.5 | M4 | FI |
| Mitsubishi Mirage | 29 | 35 | 1.5 | M5 | FI |
| Mitsubishi Mirage Turbo | 23 | 29 | 1.6 | M5 | FI |
| Mitsubishi Precis | 27 | 31 | 1.5 | L3 | 2bc |
| Mitsubishi Precis | 27 | 33 | 1.5 | M4 | 2bc |
| Mitsubishi Precis | 26 | 37 | 1.5 | M5 | 2bc |
| Mitsubishi Starion Turbo | 18 | 24 | 2.6 | L4 | FI |
| Mitsubishi Starion Turbo | 18 | 22 | 2.6 | M5 | FI |
| Nissan Pulsar NX | 24 | 29 | 1.6 | L3 | FI |
| Nissan Pulsar NX | 26 | 34 | 1.6 | M5 | FI |
| Nissan Pulsar NX | 21 | 28 | 1.8 | L4 | FI |
| Nissan Pulsar NX | 23 | 29 | 1.8 | M5 | FI |
| Nissan Sentra Coupe | 26 | 30 | 1.6 | L3 | FI |
| Nissan Sentra Coupe | 27 | 36 | 1.6 | M5 | FI |
| Nissan Sentra Coupe | 20 | 25 | 2.4 | L4 | FI |
| Nissan 240SX | 20 | 26 | 2.4 | M5 | FI |
| Nissan 300ZX 2 + 2 | 18 | 26 | 3.0 | L4 | FI |
| Nissan 300ZX 2 + 2 | 17 | 25 | 3.0 | M5 | FI |
| Plymouth Colt | 28 | 30 | 1.5 | L3 | FI |
| Plymouth Colt | 32 | 38 | 1.5 | M4 | FI |
| Plymouth Colt | 30 | 35 | 1.5 | M5 | FI |
| Plymouth Colt Turbo | 23 | 29 | 1.6 | M5 | FI |
| Plymouth Sundance Convertible | 24 | 28 | 2.2 | L3 | FI |
| Plymouth Sundance Convertible | 24 | 34 | 2.2 | M5 | FI |
| Plymouth Sundance Convertible Turbo | 19 | 24 | 2.5 | A3 | FI |
| Plymouth Sundance Convertible | 23 | 29 | 2.5 | L3 | FI |
| Plymouth Sundance Convertible | 24 | 34 | 2.5 | M5 | FI |
| Pontiac Firebird/Trans Am | 19 | 27 | 2.8 | L4 | FI |
| Pontiac Firebird/Trans Am | 18 | 27 | 2.8 | M5 | FI |
| Pontiac Firebird/Trans Am | 17 | 26 | 5.0 | L4 | FI |
| Pontiac Firebird/Trans Am | 16 | 25 | 5.0 | L4 | FI |
| Pontiac Firebird/Trans Am | 17 | 26 | 5.0 | M5 | FI |
| Pontiac Firebird/Trans Am | 17 | 25 | 5.0 | M5 | FI |
| Pontiac Firebird/Trans Am | 17 | 25 | 5.7 | L4 | FI |
| Pontiac Sunbird Convertible | 22 | 29 | 2.0 | L3 | FI |
| Pontiac Sunbird Convertible Turbo | 21 | 28 | 2.0 | L3 | FI |
| Pontiac Sunbird Convertible | 21 | 30 | 2.0 | M5 | FI |
| Pontiac Sunbird Convertible | 24 | 33 | 2.0 | M5 | FI |
| Rolls-Royce Bentley Continental | 10 | 12 | 6.8 | A3 | FI |
| Rolls-Royce Corniche II | 10 | 12 | 6.8 | A3 | FI |
| Saab 900 Convertible Turbo | 18 | 22 | 2.0 | A3 | FI |
| Saab 900 Convertible Turbo | 22 | 28 | 2.0 | M5 | FI |
| Subaru Hatchback | 23 | 25 | 1.8 | L3 | 2bc |
| Subaru Hatchback | 26 | 31 | 1.8 | M5 | 2bc |
| Subaru Justy | 34 | 35 | 1.2 | AV | 2bc |
| Subaru Justy | 34 | 37 | 1.2 | M5 | 2bc |
| Subaru Justy 4wd | 29 | 33 | 1.2 | M5 | 2bc |
| Subaru XT | 23 | 30 | 1.8 | L4 | FI |
| Subaru XT | 24 | 28 | 1.8 | M5 | FI |
| Subaru XT | 20 | 28 | 2.7 | L4 | FI |
| Subaru XT 4wd | 22 | 28 | 1.8 | L4 | FI |
| Subaru XT 4wd | 24 | 28 | 1.8 | M5 | FI |
| Subaru XT 4wd | 19 | 25 | 2.7 | L4 | FI |
| Subaru XT 4wd | 18 | 25 | 2.7 | M5 | FI |
| Suzuki Swift | 31 | 34 | 1.3 | A3 | FI |
| Suzuki Swift GTi | 25 | 28 | 1.3 | A3 | FI |
| Suzuki Swift GTi | 29 | 36 | 1.3 | M5 | FI |
| Toyota Celica | 22 | 28 | 2.0 | L4 | FI |
| Toyota Celica | 26 | 32 | 2.0 | L4 | FI |
| Toyota Celica Turbo | 19 | 26 | 2.0 | M5 | FI |
| Toyota Celica | 26 | 32 | 2.0 | M5 | FI |
| Toyota Celica | 22 | 28 | 2.0 | M5 | FI |
| Toyota Corolla | 27 | 30 | 1.6 | L3 | 2bc |
| Toyota Corolla | 27 | 34 | 1.6 | L4 | 2bc |
| Toyota Corolla | 30 | 35 | 1.6 | M5 | 2bc |
| Toyota Corolla | 23 | 29 | 1.6 | L4 | FI |
| Toyota Corolla | 23 | 28 | 1.6 | M5 | FI |
| Toyota Corolla | 26 | 31 | 1.6 | M5 | FI |
| Toyota Supra | 18 | 23 | 3.0 | L4 | FI |
| Toyota Supra Turbo | 18 | 23 | 3.0 | L4 | FI |
| Toyota Supra | 18 | 23 | 3.0 | M5 | FI |
| Toyota Supra Turbo | 17 | 22 | 3.0 | M5 | FI |
| Toyota Tercel | 28 | 32 | 1.5 | L3 | 1bc |
| Toyota Tercel | 35 | 41 | 1.5 | M4 | 1bc |
| Toyota Tercel | 31 | 37 | 1.5 | M5 | 1bc |
| Volkswagen Fox | 25 | 30 | 1.8 | M4 | FI |
| Volkswagen Fox | 24 | 29 | 1.8 | M5 | FI |
| Yugo GV/GVX | 28 | 31 | 1.1 | M4 | 2bc |
| Yugo GV/GVX | 26 | 29 | 1.3 | M5 | 2bc |
| **Compact Cars** | | | | | |
| Acura Legend | 18 | 22 | 2.7 | L4 | FI |
| Acura Legend | 19 | 23 | 2.7 | M5 | FI |
| Austin Rover Sterling | 18 | 23 | 2.7 | L4 | FI |
| Austin Rover Sterling | 19 | 24 | 2.7 | M5 | FI |
| BMW 525i | 18 | 23 | 2.5 | L4 | FI |
| BMW 525i | 18 | 24 | 2.5 | M5 | FI |
| BMW 535i | 15 | 19 | 3.4 | L4 | FI |
| BMW 535i | 15 | 23 | 3.4 | M5 | FI |
| Buick Skyhawk | 25 | 32 | 2.0 | L3 | FI |
| Buick Skyhawk | 26 | 36 | 2.0 | M5 | FI |
| Buick Skylark | 23 | 32 | 2.3 | L3 | FI |
| Buick Skylark | 23 | 30 | 2.5 | L3 | FI |
| Buick Skylark | 20 | 27 | 3.3 | L3 | FI |
| Chevrolet Beretta | 24 | 31 | 2.0 | L3 | FI |
| Chevrolet Beretta | 24 | 34 | 2.0 | M5 | FI |
| Chevrolet Beretta | 20 | 27 | 2.8 | L3 | FI |
| Chevrolet Beretta | 18 | 28 | 2.8 | M5 | FI |
| Chevrolet Cavalier | 25 | 32 | 2.0 | L3 | FI |
| Chevrolet Cavalier | 26 | 36 | 2.0 | M5 | FI |
| Chevrolet Cavalier | 20 | 27 | 2.8 | L3 | FI |
| Chevrolet Cavalier | 18 | 29 | 2.8 | M5 | FI |
| Chrysler LeBaron Turbo | 20 | 28 | 2.2 | M5 | FI |
| Chrysler LeBaron Turbo | 18 | 23 | 2.5 | A3 | FI |
| Chrysler LeBaron | 23 | 29 | 2.5 | L3 | FI |
| Chrysler LeBaron | 24 | 34 | 2.5 | M5 | FI |
| Chrysler LeBaron Turbo | 20 | 29 | 2.5 | M5 | FI |
| Dodge Omni | 24 | 30 | 2.2 | L3 | FI |
| Dodge Omni | 26 | 35 | 2.2 | M5 | FI |
| Dodge Shadow | 24 | 28 | 2.2 | L3 | FI |
| Dodge Shadow | 24 | 34 | 2.2 | M5 | FI |
| Dodge Shadow | 19 | 24 | 2.5 | A3 | FI |
| Dodge Shadow | 23 | 29 | 2.5 | L3 | FI |
| Dodge Shadow | 24 | 34 | 2.5 | M5 | FI |
| Dodge Shadow | 20 | 29 | 2.5 | M5 | FI |
| Eagle Summit | 27 | 30 | 1.5 | L3 | FI |
| Eagle Summit | 29 | 35 | 1.5 | M5 | FI |
| Eagle Summit | 23 | 28 | 1.6 | L4 | FI |
| Eagle Summit | 23 | 28 | 1.6 | M5 | FI |
| Ford Escort | 26 | 31 | 1.9 | A3 | FI |
| Ford Escort | 32 | 42 | 1.9 | M4 | FI |
| Ford Escort | 25 | 32 | 1.9 | M5 | FI |
| Ford Escort | 27 | 36 | 1.9 | M5 | FI |
| Ford Probe | 22 | 29 | 2.2 | A4 | FI |
| Ford Probe | 24 | 31 | 2.2 | M5 | FI |
| Ford Probe Turbo | 21 | 27 | 2.2 | M5 | FI |
| Ford Tempo | 22 | 28 | 2.3 | A3 | FI |
| Ford Tempo | 19 | 23 | 2.3 | A3 | FI |
| Ford Tempo | 21 | 28 | 2.3 | M5 | FI |
| Ford Tempo | 23 | 32 | 2.3 | M5 | FI |
| Honda Accord | 23 | 30 | 2.0 | L4 | 2bc |
| Honda Accord | 27 | 34 | 2.0 | M5 | 2bc |
| Honda Accord | 22 | 28 | 2.0 | L4 | FI |
| Honda Accord | 25 | 30 | 2.0 | M5 | FI |
| Jaguar XJ-6 | 17 | 23 | 3.6 | L4 | FI |
| Mercury Topaz | 22 | 26 | 2.3 | A3 | FI |
| Mercury Topaz | 19 | 23 | 2.3 | A3 | FI |
| Mercury Topaz | 21 | 28 | 2.3 | M5 | FI |
| Mercury Topaz | 23 | 31 | 2.3 | M5 | FI |
| Mazda 323 | 24 | 30 | 1.6 | L4 | FI |
| Mazda 323 | 26 | 30 | 1.6 | M4 | FI |
| Mazda 323 | 28 | 33 | 1.6 | M5 | FI |
| Mazda 323 Turbo | 22 | 27 | 1.6 | M5 | FI |
| Mazda 323 Turbo | 21 | 24 | 1.6 | M5 | FI |
| Mercedes-Benz 260E | 20 | 24 | 2.6 | A4 | FI |
| Mercedes-Benz 300E | 18 | 22 | 3.0 | A4 | FI |
| Mercedes-Benz 300SE | 17 | 19 | 3.0 | A4 | FI |
| Mercedes-Benz 560SEC | 14 | 16 | 5.6 | A4 | FI |
| Merkur XR4Ti | 18 | 21 | 2.3 | A3 | FI |
| Merkur XR4Ti | 19 | 25 | 2.3 | M5 | FI |
| Mitsubishi Galant (SOHC) | 22 | 28 | 2.0 | L4 | FI |
| Mitsubishi Galant (DOHC) | 21 | 27 | 2.0 | M5 | FI |
| Mitsubishi Galant (SOHC) | 23 | 30 | 2.0 | M5 | FI |
| Mitsubishi Sigma | 18 | 22 | 3.0 | A4 | FI |
| Mitsubishi Sigma | 18 | 24 | 3.0 | M5 | FI |
| Nissan Maxima | 19 | 26 | 3.0 | L4 | FI |
| Nissan Maxima | 20 | 26 | 3.0 | M5 | FI |
| Nissan Sentra | 26 | 30 | 1.6 | L3 | FI |
| Nissan Sentra | 29 | 35 | 1.6 | M4 | FI |
| Nissan Sentra | 28 | 36 | 1.6 | M5 | FI |
| Nissan Stanza | 21 | 27 | 2.0 | L4 | FI |
| Nissan Stanza | 22 | 28 | 2.0 | M5 | FI |
| Oldsmobile Cutlass Calais | 23 | 32 | 2.3 | L3 | FI |
| Oldsmobile Cutlass Calais | 24 | 35 | 2.3 | M5 | FI |
| Oldsmobile Cutlass Calais | 23 | 30 | 2.5 | L3 | FI |
| Oldsmobile Cutlass Calais | 23 | 33 | 2.5 | M5 | FI |
| Peugeot 405 Sedan | 20 | 27 | 3.3 | L3 | FI |
| Peugeot 405 Sedan | 20 | 24 | 1.9 | L4 | FI |
| Peugeot 405 Sedan | 20 | 26 | 1.9 | M5 | FI |
| Peugeot 405 Sedan 16-valve | 20 | 27 | 1.9 | M5 | FI |
| Peugeot 505 Sedan Turbo | 18 | 22 | 2.2 | L4 | FI |
| Peugeot 505 Sedan Turbo | 18 | 24 | 2.2 | M5 | FI |
| Peugeot 505 Sedan | 19 | 22 | 2.2 | L4 | FI |
| Peugeot 505 Sedan | 18 | 24 | 2.2 | M5 | FI |
| Peugeot 505 Sedan | 18 | 22 | 2.8 | L4 | FI |
| Peugeot 505 Sedan | 18 | 22 | 2.8 | M5 | FI |
| Plymouth Horizon | 24 | 30 | 2.2 | L3 | FI |
| Plymouth Horizon | 26 | 35 | 2.2 | M5 | FI |
| Plymouth Sundance | 24 | 28 | 2.2 | L3 | FI |
| Plymouth Sundance | 24 | 34 | 2.2 | M5 | FI |
| Plymouth Sundance Turbo | 19 | 24 | 2.5 | A3 | FI |
| Plymouth Sundance | 23 | 29 | 2.5 | L3 | FI |
| Plymouth Sundance | 24 | 34 | 2.5 | M5 | FI |
| Plymouth Sundance Turbo | 20 | 29 | 2.5 | M5 | FI |
| Pontiac Grand Am | 21 | 28 | 2.0 | L3 | FI |
| Pontiac Grand Am | 21 | 30 | 2.0 | M5 | FI |
| Pontiac Grand Am | 23 | 32 | 2.3 | L3 | FI |
| Pontiac Grand Am | 24 | 35 | 2.3 | M5 | FI |
| Pontiac Grand Am | 23 | 30 | 2.5 | L3 | FI |
| Pontiac Grand Am | 23 | 33 | 2.5 | M5 | FI |
| Pontiac LeMans | 27 | 31 | 1.6 | L3 | FI |
| Pontiac LeMans | 30 | 39 | 1.6 | M4 | |
| Pontiac LeMans | 31 | 40 | 1.6 | M5 | |
| Pontiac LeMans | 22 | 28 | 2.0 | L3 | |
| Pontiac Sunbird | 24 | 30 | 2.0 | M5 | |
| Pontiac Sunbird | 23 | 31 | 2.0 | L3 | FI |
| Pontiac Sunbird Turbo | 20 | 27 | 2.0 | L3 | FI |
| Pontiac Sunbird Turbo | 21 | 31 | 2.0 | M5 | FI |
| Pontiac Sunbird | 19 | 22 | 2.0 | A3 | FI |
| Saab 900 | 19 | 23 | 2.0 | A3 | FI |
| Saab 900 Turbo | 22 | 28 | 2.0 | M5 | FI |
| Saab 900 | 22 | 28 | 2.0 | M5 | FI |
| Saab 900 Turbo | 21 | 28 | 2.0 | M5 | FI |
| Subaru Sedan/3-Door | 22 | 24 | 1.8 | A3 | FI |
| Subaru Sedan/3-Door | 25 | 27 | 1.8 | L3 | FI |
| Subaru Sedan/3-Door | 25 | 31 | 1.8 | M5 | FI |
| Subaru Sedan/3-Door 4wd Turbo | 20 | 26 | 1.8 | L4 | FI |
| Subaru Sedan/3-Door 4wd Turbo | 22 | 25 | 1.8 | M5 | FI |
| Toyota Camry | 24 | 30 | 2.0 | L4 | FI |
| Toyota Camry | 22 | 25 | 2.0 | L4 | FI |
| Toyota Camry | 26 | 32 | 2.0 | L4 | FI |
| Toyota Camry | 22 | 27 | 2.0 | M5 | FI |
| Toyota Camry | 19 | 24 | 2.5 | L4 | FI |
| Toyota Camry | 19 | 24 | 2.5 | M5 | FI |
| Toyota Cressida | 19 | 24 | 3.0 | L4 | FI |
| Volkswagen Golf | 23 | 28 | 1.8 | A3 | FI |
| Volkswagen Golf | 25 | 34 | 1.8 | M5 | FI |
| Volkswagen GTI 16V | 22 | 29 | 1.8 | M5 | FI |
| Volkswagen Jetta | 23 | 28 | 1.8 | A3 | FI |
| Volkswagen Jetta GLI 16V | 25 | 34 | 1.8 | M5 | FI |
| Volvo 240 DL/240 GL | 22 | 29 | 1.8 | M5 | FI |
| Volvo 240 DL/240 GL | 19 | 24 | 2.3 | A4 | FI |
| Volvo 240 DL/240 GL | 19 | 24 | 2.3 | A4 | FI |
| Volvo 240 DL/240 GL | 21 | 27 | 2.3 | M5 | FI |
| Volvo 780 Turbo | 21 | 28 | 2.3 | M5 | FI |
| Volvo 780 | 19 | 23 | 2.3 | A4 | FI |
| | 17 | 21 | 2.8 | A4 | FI |
| Audi 100 | 19 | 22 | 2.3 | A3 | FI |
| Audi 100 | 18 | 25 | 2.3 | M5 | FI |
| Audi 100 Quattro | 18 | 24 | 2.3 | M5 | FI |
| Audi 200 | 18 | 22 | 2.2 | A3 | FI |
| Audi 200 | 18 | 26 | 2.2 | M5 | FI |
| Audi 200 Quattro | 17 | 25 | 2.2 | M5 | FI |
| Bentley Eight/Mulsanne | 10 | 12 | 6.8 | A3 | FI |
| Bentley Turbo R | 10 | 13 | 6.8 | A3 | FI |
| BMW 735i | 15 | 19 | 3.4 | L4 | FI |
| BMW 735i | 15 | 23 | 3.4 | M5 | FI |
| BMW 750iL | 15 | 19 | 3.4 | L4 | FI |
| Buick Century | 12 | 17 | 5.0 | L4 | FI |
| Buick Century | 23 | 30 | 2.5 | L3 | FI |
| Buick Century | 20 | 27 | 2.8 | L3 | FI |
| Buick Century | 20 | 28 | 2.8 | L4 | FI |
| Buick Century | 20 | 27 | 3.3 | L3 | FI |
| Buick Regal | 20 | 29 | 3.3 | L4 | FI |
| Buick Riviera | 20 | 29 | 2.8 | L4 | FI |
| Cadillac Eldorado | 19 | 28 | 3.8 | L4 | FI |
| Cadillac Seville | 17 | 25 | 4.5 | L4 | FI |
| Chevrolet Celebrity | 17 | 25 | 4.5 | L4 | FI |
| Chevrolet Celebrity | 23 | 30 | 2.5 | L3 | FI |
| Chevrolet Celebrity | 20 | 27 | 2.8 | L3 | FI |
| Chevrolet Celebrity | 20 | 29 | 2.8 | L4 | FI |
| Chevrolet Corsica | 24 | 31 | 2.0 | L3 | FI |
| Chevrolet Corsica | 24 | 34 | 2.0 | M5 | FI |
| Chevrolet Corsica | 20 | 27 | 2.8 | L3 | FI |
| Chevrolet Corsica | 18 | 29 | 2.8 | M5 | FI |
| Chrysler LeBaron GTS | 24 | 28 | 2.2 | L3 | FI |
| Chrysler LeBaron GTS | 24 | 34 | 2.2 | M5 | FI |
| Chrysler LeBaron GTS Turbo | 20 | 28 | 2.2 | M5 | FI |
| Chrysler LeBaron GTS Turbo | 19 | 24 | 2.5 | A3 | FI |
| Chrysler LeBaron GTS | 23 | 29 | 2.5 | L3 | FI |
| Chrysler LeBaron GTS | 24 | 34 | 2.5 | M5 | FI |
| Chrysler LeBaron GTS Turbo | 20 | 29 | 2.5 | M5 | FI |
| Chrysler New Yorker | 18 | 26 | 3.0 | L4 | FI |
| Chrysler Newport/Fifth Ave | 16 | 22 | 5.2 | L3 | 2bc |
| Dodge Aries | 24 | 30 | 2.2 | L3 | FI |
| Dodge Aries | 25 | 34 | 2.2 | M5 | FI |
| Dodge Diplomat | 23 | 28 | 2.5 | L3 | FI |
| Dodge Dynasty | 16 | 22 | 5.2 | L3 | 2bc |
| Dodge Dynasty | 22 | 28 | 2.5 | L3 | FI |
| Dodge Lancer | 18 | 26 | 3.0 | L4 | FI |
| Dodge Lancer | 24 | 28 | 2.2 | L3 | FI |
| Dodge Lancer Turbo | 24 | 34 | 2.2 | M5 | FI |
| Dodge Lancer Turbo | 20 | 28 | 2.2 | M5 | FI |
| Dodge Lancer | 19 | 24 | 2.5 | A3 | FI |
| Dodge Lancer | 23 | 29 | 2.5 | L3 | FI |
| Dodge Lancer | 24 | 34 | 2.5 | M5 | FI |
| Dodge Lancer Turbo | 20 | 29 | 2.5 | M5 | FI |
| Dodge Spirit | 24 | 28 | 2.2 | L3 | FI |
| Dodge Spirit Turbo | 19 | 24 | 2.5 | A3 | FI |
| Dodge Spirit | 23 | 29 | 2.5 | L3 | FI |
| Dodge Spirit | 24 | 34 | 2.5 | M5 | FI |
| Dodge Spirit Turbo | 20 | 29 | 2.5 | M5 | FI |
| Dodge Spirit | 18 | 28 | 3.0 | L4 | FI |
| Dodge 600 | 24 | 28 | 2.2 | L3 | FI |
| Dodge 600 Turbo | 19 | 24 | 2.5 | A3 | FI |
| Dodge 600 | 23 | 29 | 2.5 | L3 | FI |
| Eagle Medallion Sedan | 21 | 27 | 2.2 | A3 | FI |
| Eagle Medallion Sedan | 23 | 31 | 2.2 | M5 | FI |
| Ford Taurus | 21 | 27 | 2.5 | A3 | FI |
| Ford Taurus | 21 | 29 | 3.0 | L4 | FI |
| Ford Taurus | 19 | 28 | 3.8 | L4 | FI |
| Lincoln Mark VII | 17 | 24 | 5.0 | L4 | FI |
| Mercury Sable | 21 | 29 | 3.0 | L4 | FI |
| Mercury Sable | 19 | 28 | 3.8 | L4 | FI |
| Maserati 228 | 14 | 19 | 2.8 | M5 | FI |
| Mazda 626/MX-6 | 22 | 28 | 2.2 | L4 | FI |
| Mazda 626/MX-6 Turbo | 19 | 25 | 2.2 | L4 | FI |
| Mazda 626/MX-6 | 24 | 31 | 2.2 | M5 | FI |
| Mazda 626/MX-6 Turbo | 21 | 28 | 2.2 | M5 | FI |
| Mazda 929 | 19 | 23 | 3.0 | L4 | FI |
| Mazda 929 | 18 | 24 | 3.0 | M5 | FI |
| Mercedes-Benz 300SEL | 17 | 19 | 3.0 | A4 | FI |
| Mercedes-Benz 420SEL | 15 | 18 | 4.2 | A4 | FI |
| Mercedes-Benz 560SEL | 14 | 16 | 5.6 | A4 | FI |
| Oldsmobile Cutlass Ciera | 23 | 30 | 2.5 | L3 | FI |
| Oldsmobile Cutlass Ciera | 20 | 27 | 2.8 | L3 | FI |
| Oldsmobile Cutlass Ciera | 20 | 29 | 2.8 | L4 | FI |
| Oldsmobile Cutlass Ciera | 20 | 29 | 3.3 | L4 | FI |
| Oldsmobile Cutlass Supreme | 20 | 29 | 2.8 | L4 | FI |
| Oldsmobile Cutlass Supreme | 18 | 28 | 2.8 | M5 | FI |
| Oldsmobile Toronado | 19 | 28 | 3.8 | L4 | FI |
| Plymouth Acclaim | 24 | 28 | 2.2 | L3 | FI |
| Plymouth Acclaim Turbo | 19 | 24 | 2.5 | A3 | FI |
| Plymouth Acclaim | 23 | 29 | 2.5 | L3 | FI |
| Plymouth Acclaim | 24 | 34 | 2.5 | M5 | FI |
| Plymouth Acclaim Turbo | 20 | 29 | 2.5 | M5 | FI |
| Plymouth Acclaim | 18 | 26 | 3.0 | L4 | FI |
| Plymouth Caravelle | 24 | 28 | 2.2 | L3 | FI |
| Plymouth Caravelle Turbo | 19 | 24 | 2.5 | A3 | FI |
| Plymouth Caravelle | 23 | 29 | 2.5 | L3 | FI |
| Plymouth Gran Fury | 16 | 22 | 5.2 | L3 | 2bc |
| Plymouth Reliant | 24 | 30 | 2.2 | L3 |

# SPECIFICATIONS



Continued from page E38

| Car Line | Est. MPG City | Hwy | Displ. (liters) | Trans | Fuel Sys |
|---|---|---|---|---|---|
| Pontiac 6000 | 20 | 27 | 2.8 | L3 | FI |
| Pontiac 6000 | 20 | 29 | 2.8 | L4 | FI |
| Pontiac 6000 | 18 | 23 | 3.1 | L3 | FI |
| Rolls-Royce Silver Spirit/Sour | 10 | 12 | 6.8 | A3 | FI |
| Volvo 740 Turbo | 19 | 23 | 2.3 | A4 | FI |
| Volvo 740 | 19 | 26 | 2.3 | L4 | FI |
| Volvo 740 | 20 | 26 | 2.3 | L4 | FI |
| Volvo 740 Turbo | 20 | 25 | 2.3 | M4 | FI |
| Volvo 740 | 21 | 27 | 2.3 | M5 | FI |
| Volvo 760 Turbo | 19 | 23 | 2.3 | A4 | FI |
| Volvo 760 | 17 | 21 | 2.8 | A4 | FI |
| Buick Electra | 19 | 28 | 3.8 | L4 | FI |
| Buick LeSabre | 19 | 28 | 3.8 | L4 | FI |
| Cadillac Brougham | 17 | 24 | 5.0 | L4 | 4bc |
| Cadillac Fleetwood/DeVille | 17 | 25 | 4.5 | L4 | FI |
| Chevrolet Caprice | 19 | 27 | 4.3 | L4 | FI |
| Chevrolet Caprice | 17 | 25 | 5.0 | L4 | FI |
| Chrysler New Yorker/Fifth Ave | 18 | 26 | 3.0 | L4 | FI |
| Eagle Premier | 22 | 31 | 2.5 | L4 | FI |
| Eagle Premier | 18 | 27 | 3.0 | L4 | FI |
| Ford LTD Crown Victoria | 17 | 24 | 5.0 | L4 | FI |
| Mercury Grand Marquis | 17 | 24 | 5.0 | L4 | FI |
| Lincoln Town Car | 17 | 24 | 5.0 | L4 | FI |
| Oldsmobile Eighty-Eight | 19 | 28 | 3.8 | L4 | FI |
| Oldsmobile Ninety-Eight/Touring | 18 | 28 | 3.8 | L4 | FI |
| Pontiac Bonneville | 18 | 28 | 3.8 | L4 | FI |
| Saab 9000 | 18 | 24 | 2.0 | L4 | FI |
| Saab 9000 Turbo | 19 | 26 | 2.0 | L4 | FI |
| Saab 9000 | 22 | 28 | 2.0 | M5 | FI |
| Saab 9000 Turbo | 22 | 28 | 2.0 | M5 | FI |
| **Small Station Wagons** | | | | | |
| Buick Skyhawk Wagon | 25 | 32 | 2.0 | L3 | FI |
| Buick Skyhawk Wagon | 26 | 36 | 2.0 | M5 | FI |
| Chevrolet Cavalier Wagon | 25 | 32 | 2.0 | L3 | FI |
| Chevrolet Cavalier Wagon | 26 | 36 | 2.0 | M5 | FI |
| Chevrolet Cavalier Wagon | 20 | 27 | 2.8 | L3 | FI |
| Chevrolet Cavalier Wagon | 18 | 29 | 2.8 | M5 | FI |
| Dodge Colt Vista | 22 | 23 | 2.0 | L3 | FI |
| Dodge Colt Vista | 22 | 28 | 2.0 | M5 | FI |
| Dodge Colt Wagon | 27 | 29 | 1.5 | L3 | FI |
| Dodge Colt Wagon | 30 | 35 | 1.5 | M5 | FI |
| Ford Escort Wagon | 25 | 31 | 1.9 | A3 | FI |
| Ford Escort Wagon | 27 | 36 | 1.9 | M5 | FI |
| Honda Civic Wagon | 27 | 32 | 1.5 | L4 | FI |
| Honda Civic Wagon | 31 | 35 | 1.5 | M5 | FI |
| Honda Civic Wagon 4wd | 24 | 27 | 1.6 | L4 | FI |
| Honda Civic Wagon 4wd | 25 | 26 | 1.6 | M5 | FI |
| Mercury Tracer Wagon | 26 | 29 | 1.6 | A3 | FI |
| Mercury Tracer Wagon | 28 | 35 | 1.6 | M5 | FI |
| Mazda 323 Wagon | 24 | 28 | 1.6 | A3 | FI |
| Mazda 323 Wagon | 28 | 33 | 1.6 | M5 | FI |
| Mitsubishi Mirage Wagon | 27 | 29 | 1.5 | L3 | FI |
| Mitsubishi Mirage Wagon | 30 | 35 | 1.5 | M5 | FI |
| Mitsubishi Space Wagon | 22 | 23 | 2.0 | L3 | FI |
| Nissan Sentra Wagon | 26 | 30 | 1.6 | L3 | FI |
| Nissan Sentra Wagon | 27 | 35 | 1.6 | M5 | FI |
| Nissan Sentra Wagon 4wd | 23 | 25 | 1.6 | L3 | FI |
| Nissan Sentra Wagon 4wd | 25 | 29 | 1.6 | M5 | FI |
| Plymouth Colt Vista | 22 | 23 | 2.0 | L3 | FI |
| Plymouth Colt Vista | 22 | 28 | 2.0 | M5 | FI |
| Plymouth Colt Wagon | 27 | 29 | 1.5 | L3 | FI |
| Plymouth Colt Wagon | 30 | 35 | 1.5 | M5 | FI |
| Subaru Wagon Turbo | 22 | 24 | 1.8 | A3 | FI |
| Subaru Wagon | 25 | 27 | 1.8 | L3 | FI |
| Subaru Wagon 4wd Turbo | 25 | 30 | 1.8 | M5 | FI |
| Subaru Wagon 4wd Turbo | 20 | 26 | 1.8 | L4 | FI |
| Toyota Camry Wagon | 22 | 25 | 1.8 | M5 | FI |
| Toyota Camry Wagon | 24 | 30 | 2.0 | L4 | FI |
| Toyota Camry Wagon | 26 | 32 | 2.0 | M5 | FI |
| Toyota Corolla All-Trac Wagon | 19 | 24 | 2.5 | L4 | FI |
| Toyota Corolla All-Trac Wagon | 23 | 29 | 1.6 | L4 | FI |
| Toyota Corolla Wagon | 23 | 28 | 1.6 | M5 | FI |
| Toyota Corolla Wagon | 27 | 30 | 1.6 | L3 | 2bc |
| Volkswagen Fox Wagon | 30 | 35 | 1.6 | M5 | 2bc |
| Volkswagen Fox Wagon | 25 | 30 | 1.8 | M4 | FI |
| **Mid-Size Station Wagons** | | | | | |
| Audi 100 Wagon | 19 | 22 | 2.3 | A3 | FI |
| Audi 100 Wagon | 18 | 25 | 2.3 | M5 | FI |
| Audi 200 Quattro Wagon | 17 | 25 | 2.2 | M5 | FI |
| Buick Century Wagon | 24 | 30 | 2.5 | L3 | FI |
| Buick Century Wagon | 20 | 29 | 2.8 | L4 | FI |
| Buick Century Wagon | 19 | 26 | 3.3 | L3 | FI |
| Chevrolet Celebrity Wagon | 19 | 29 | 3.3 | L4 | FI |
| Chevrolet Celebrity Wagon | 23 | 30 | 2.5 | L3 | FI |
| Eagle Medallion Wagon | 20 | 29 | 2.8 | L4 | FI |
| Eagle Medallion Wagon | 21 | 27 | 2.2 | A3 | FI |
| Ford Taurus Wagon | 23 | 31 | 2.2 | M5 | FI |
| Ford Taurus Wagon V6 A/C | 21 | 29 | 3.0 | L4 | FI |
| Ford Taurus Wagon V6 A/C | 19 | 26 | 3.0 | L4 | FI |
| Mercury Sable Wagon | 18 | 26 | 3.8 | L4 | FI |
| Mercury Sable Wagon V6 A/C | 21 | 29 | 3.0 | L4 | FI |
| Mercury Sable Wagon V6 A/C | 19 | 26 | 3.0 | L4 | FI |
| Mercedes-Benz 300TE | 18 | 26 | 3.8 | L4 | FI |
| Oldsmobile Cutlass Cruiser | 17 | 21 | 3.0 | A4 | FI |
| Oldsmobile Cutlass Cruiser | 24 | 30 | 2.5 | L3 | FI |
| Oldsmobile Cutlass Cruiser | 20 | 29 | 2.8 | L4 | FI |
| Oldsmobile Cutlass Cruiser | 19 | 29 | 3.3 | L4 | FI |
| Peugeot 505 Station Wagon Turbo | 18 | 22 | 2.2 | L4 | FI |
| Peugeot 505 Station Wagon | 19 | 22 | 2.2 | L4 | FI |
| Peugeot 505 Station Wagon | 18 | 22 | 2.2 | M5 | FI |
| Pontiac 6000 Wagon | 24 | 30 | 2.5 | L3 | FI |
| Pontiac 6000 Wagon | 20 | 29 | 2.8 | L4 | FI |
| Volvo 240 DL/240 GL Wagon | 18 | 23 | 2.3 | A4 | FI |
| Volvo 240 DL/240 GL Wagon | 19 | 24 | 2.3 | A4 | FI |
| Volvo 240 DL/240 GL Wagon | 21 | 26 | 2.3 | M5 | FI |
| Volvo 240 DL/240 GL Wagon | 21 | 27 | 2.3 | M5 | FI |
| Volvo 740 Wagon Turbo | 19 | 23 | 2.3 | A4 | FI |
| Volvo 740 Wagon | 19 | 24 | 2.3 | L4 | FI |
| Volvo 740 Wagon | 19 | 25 | 2.3 | L4 | FI |
| Volvo 740 Wagon Turbo | 20 | 25 | 2.3 | M4 | FI |
| Volvo 740 Wagon | 21 | 26 | 2.3 | M5 | FI |
| Volvo 760 Wagon Turbo | 19 | 23 | 2.3 | A4 | FI |
| **Large Station Wagons** | | | | | |
| Buick LeSabre/Electra Wagon | 17 | 24 | 5.0 | L4 | 4bc |
| Chevrolet Caprice Wagon | 17 | 24 | 5.0 | L4 | 4bc |
| Ford LTD Crown Vic. Wagon | 17 | 24 | 5.0 | L4 | FI |
| Mercury Grand Marquis Wagon | 17 | 24 | 5.0 | L4 | FI |
| Oldsmobile Custom Cruiser | 17 | 24 | 5.0 | L4 | 4bc |
| Pontiac Safari Wagon | 17 | 24 | 5.0 | L4 | 4bc |
| **Small Pickup Trucks/2wd** | | | | | |
| Chevrolet S10 Pickup | 21 | 28 | 2.5 | L4 | FI |
| Chevrolet S10 Pickup | 23 | 27 | 2.5 | M5 | FI |
| Chevrolet S10 Pickup | 19 | 26 | 2.8 | M5 | FI |
| Dodge Ram 50 | 18 | 23 | 4.3 | L4 | FI |
| Dodge Ram 50 | 23 | 26 | 2.0 | A4 | 2bc |
| Dodge Ram 50 | 23 | 28 | 2.0 | M5 | 2bc |
| Dodge Ram 50 | 20 | 22 | 2.6 | A4 | 2bc |
| Ford Courier | 20 | 25 | 2.6 | M5 | 2bc |
| Ford Courier | 20 | 25 | 2.2 | L4 | 2bc |
| Ford Ranger Pickup | 21 | 26 | 2.2 | M5 | 2bc |
| Ford Ranger Pickup | 20 | 24 | 2.3 | L4 | FI |
| Ford Ranger Pickup | 23 | 27 | 2.3 | M5 | FI |
| Ford Ranger Pickup | 17 | 21 | 2.9 | L4 | FI |
| Ford Ranger Pickup | 18 | 23 | 2.9 | M5 | FI |
| GMC S15 Pickup | 21 | 28 | 2.5 | L4 | FI |
| GMC S15 Pickup | 23 | 27 | 2.5 | M5 | FI |
| GMC S15 Pickup | 19 | 26 | 2.8 | M5 | FI |
| GMC S15 Pickup | 18 | 23 | 4.3 | L4 | FI |
| Isuzu Pickup | 22 | 24 | 2.3 | M5 | 2bc |
| Isuzu Pickup | 19 | 23 | 2.6 | L4 | FI |
| Isuzu Pickup | 19 | 24 | 2.6 | M5 | FI |
| Mazda B2200/B2600 | 20 | 25 | 2.2 | L4 | 2bc |
| Mazda B2200/B2600 | 21 | 26 | 2.2 | M5 | 2bc |
| Mitsubishi Truck | 23 | 28 | 2.0 | A4 | 2bc |
| Mitsubishi Truck | 23 | 28 | 2.0 | M5 | 2bc |
| Mitsubishi Truck | 20 | 22 | 2.6 | A4 | 2bc |
| Nissan Truck | 20 | 25 | 2.6 | M5 | 2bc |
| Nissan Truck | 21 | 26 | 2.4 | L4 | FI |
| Nissan Truck | 21 | 24 | 2.4 | M4 | FI |
| Nissan Truck | 21 | 26 | 2.4 | M5 | FI |
| Nissan Truck | 18 | 21 | 3.0 | L4 | FI |
| Toyota Truck | 17 | 24 | 3.0 | M5 | FI |
| Toyota Truck | 21 | 23 | 2.4 | M4 | 2bc |
| Toyota Truck | 23 | 25 | 2.4 | M4 | 2bc |
| Toyota Truck | 21 | 25 | 2.4 | M5 | 2bc |
| Toyota Truck | 23 | 24 | 2.4 | A4 | FI |
| Toyota Truck | 22 | 26 | 2.4 | M5 | FI |
| Toyota Truck | 19 | 25 | 3.0 | L4 | FI |
| Toyota Truck | 19 | 24 | 3.0 | M5 | FI |
| **Small Pickup Trucks/4wd** | | | | | |
| Ford Ranger Pickup | 21 | 24 | 2.3 | M5 | FI |
| Ford Ranger Pickup | 16 | 19 | 2.9 | L4 | FI |
| Ford Ranger Pickup | 18 | 21 | 2.9 | M5 | FI |
| **Standard Pickup Trucks/2wd** | | | | | |
| Chevrolet C1500 Pickup | 17 | 22 | 4.3 | L4 | FI |
| Chevrolet C1500 Pickup | 18 | 21 | 4.3 | M4C | FI |
| Chevrolet C1500 Pickup | 17 | 24 | 4.3 | M5 | FI |
| Chevrolet C1500 Pickup | 15 | 21 | 5.0 | L4 | FI |
| Chevrolet C1500 Pickup | 15 | 21 | 5.0 | M5 | FI |
| Chevrolet C1500 Pickup | 15 | 20 | 5.7 | L4 | FI |
| Chevrolet C1500 Pickup | 14 | 17 | 5.7 | M4C | FI |
| Chevrolet C1500 Pickup | 13 | 19 | 5.7 | M5 | FI |
| Chevrolet C1500 Pickup Diesel | 19 | 25 | 6.2 | L4 | FI |
| Chevrolet C1500 Pickup Diesel | 18 | 19 | 6.2 | M4C | FI |
| Chevrolet C2500 Pickup | 17 | 22 | 4.3 | L4 | FI |
| Chevrolet C2500 Pickup | 16 | 18 | 4.3 | M4C | FI |
| Chevrolet C2500 Pickup | 17 | 24 | 4.3 | M5 | FI |
| Chevrolet C2500 Pickup | 15 | 20 | 5.0 | L4 | FI |
| Chevrolet C2500 Pickup | 14 | 20 | 5.0 | M5 | FI |
| Chevrolet C2500 Pickup | 14 | 20 | 5.7 | L4 | FI |
| Chevrolet C2500 Pickup | 14 | 16 | 5.7 | M4C | FI |
| Chevrolet C2500 Pickup | 13 | 18 | 5.7 | M5 | FI |
| Chevrolet C2500 Pickup Diesel | 18 | 25 | 6.2 | L4 | FI |
| Chevrolet C2500 Pickup Diesel | 18 | 18 | 6.2 | M4C | FI |
| Dodge Dakota Pickup | 21 | 26 | 2.5 | L4 | FI |
| Dodge Dakota Pickup | 22 | 28 | 2.5 | M5 | FI |
| Dodge Dakota Pickup | 15 | 20 | 3.9 | L4 | FI |
| Dodge D100/D150 Pickup | 16 | 22 | 3.9 | M5 | FI |
| Dodge D100/D150 Pickup | 15 | 18 | 3.9 | L3 | FI |
| Dodge D100/D150 Pickup | 15 | 19 | 3.9 | L4 | FI |
| Dodge D100/D150 Pickup | 14 | 18 | 3.9 | M4C | FI |
| Dodge D100/D150 Pickup | 13 | 19 | 3.9 | M5 | FI |
| Dodge D100/D150 Pickup | 13 | 14 | 5.2 | A3 | FI |
| Dodge D100/D150 Pickup | 14 | 17 | 5.2 | L3 | FI |
| Dodge D100/D150 Pickup | 13 | 17 | 5.2 | L4 | FI |
| Dodge D100/D150 Pickup | 13 | 18 | 5.2 | M4 | FI |
| Dodge D100/D150 Pickup | 13 | 15 | 5.2 | M4C | FI |
| Dodge D100/D150 Pickup | 11 | 13 | 5.9 | A3 | FI |
| Dodge D100/D150 Pickup | 11 | 14 | 5.9 | M4C | FI |
| Dodge D250 Pickup | 14 | 16 | 3.9 | L3 | FI |
| Dodge D250 Pickup | 14 | 17 | 3.9 | M4C | FI |
| Dodge D250 Pickup | 13 | 14 | 5.2 | A3 | FI |
| Dodge D250 Pickup | 13 | 17 | 5.2 | L4 | FI |
| Dodge D250 Pickup | 13 | 15 | 5.2 | M4C | FI |
| Dodge D250 Pickup | 11 | 13 | 5.9 | A3 | FI |
| Dodge D250 Pickup | 11 | 14 | 5.9 | M4C | FI |
| Ford F150 Pickup | 14 | 16 | 4.9 | A3 | FI |
| Ford F150 Pickup | 16 | 17 | 4.9 | M4C | FI |
| Ford F150 Pickup | 15 | 19 | 4.9 | M5 | FI |
| Ford F150 Pickup | 15 | 18 | 4.9 | M5C | FI |
| Ford F150 Pickup | 13 | 15 | 5.0 | A3 | FI |
| Ford F150 Pickup | 14 | 18 | 5.0 | L4 | FI |
| Ford F150 Pickup | 14 | 15 | 5.0 | M4C | FI |
| Ford F150 Pickup | 14 | 17 | 5.0 | M5 | FI |
| Ford F150 Pickup | 12 | 13 | 5.8 | A3 | FI |
| Ford F250 Pickup | 14 | 16 | 4.9 | A3 | FI |
| Ford F250 Pickup | 16 | 17 | 4.9 | M4C | FI |
| Ford F250 Pickup | 15 | 19 | 4.9 | M5 | FI |
| Ford F250 Pickup | 15 | 18 | 4.9 | M5C | FI |
| Ford F250 Pickup | 14 | 18 | 5.0 | L4 | FI |
| Ford F250 Pickup | 14 | 15 | 5.0 | M4C | FI |
| Ford F250 Pickup | 14 | 17 | 5.0 | M5 | FI |
| Ford F250 Pickup | 11 | 13 | 5.8 | A3 | FI |
| GMC C1500 Sierra | 17 | 22 | 4.3 | L4 | FI |
| GMC C1500 Sierra | 18 | 21 | 4.3 | M4C | FI |
| GMC C1500 Sierra | 17 | 24 | 4.3 | M5 | FI |
| GMC C1500 Sierra | 15 | 21 | 5.0 | L4 | FI |
| GMC C1500 Sierra | 15 | 21 | 5.0 | M5 | FI |
| GMC C1500 Sierra | 15 | 20 | 5.7 | L4 | FI |
| GMC C1500 Sierra | 14 | 17 | 5.7 | M4C | FI |
| GMC C1500 Sierra | 13 | 19 | 5.7 | M5 | FI |
| GMC C1500 Sierra Diesel | 19 | 25 | 6.2 | L4 | FI |
| GMC C1500 Sierra Diesel | 18 | 19 | 6.2 | M4C | FI |
| GMC C2500 Sierra | 17 | 22 | 4.3 | L4 | FI |
| GMC C2500 Sierra | 16 | 18 | 4.3 | M4C | FI |
| GMC C2500 Sierra | 17 | 24 | 4.3 | M5 | FI |
| GMC C2500 Sierra | 15 | 20 | 5.0 | L4 | FI |
| GMC C2500 Sierra | 14 | 20 | 5.0 | M5 | FI |
| GMC C2500 Sierra | 14 | 20 | 5.7 | L4 | FI |
| GMC C2500 Sierra | 14 | 16 | 5.7 | M4C | FI |
| GMC C2500 Sierra Diesel | 13 | 18 | 5.7 | M5 | FI |
| GMC C2500 Sierra Diesel | 18 | 25 | 6.2 | L4 | FI |
| Isuzu Pickup 1 Ton | 18 | 18 | 6.2 | M4C | FI |
| Jeep Comanche Pickup | 18 | 22 | 2.6 | M5 | FI |
| Jeep Comanche Pickup | 18 | 24 | 2.5 | L4 | FI |
| Jeep Comanche Pickup | 20 | 25 | 2.5 | M4 | FI |
| Jeep Comanche Pickup | 22 | 25 | 2.5 | M4 | FI |
| Jeep Comanche Pickup | 19 | 24 | 2.5 | M5 | FI |
| Jeep Comanche Pickup | 21 | 24 | 2.5 | M5 | FI |
| Jeep Comanche Pickup | 16 | 21 | 4.0 | L4 | FI |
| Toyota 1-Ton | 17 | 23 | 4.0 | M5 | FI |
| Toyota 1-Ton | 19 | 25 | 3.0 | L4 | FI |
| Toyota 1-Ton | 19 | 24 | 3.0 | M5 | FI |
| **Standard Pickup Trucks/4wd** | | | | | |
| Chevrolet K1500 Pickup | 16 | 20 | 4.3 | L4 | FI |
| Chevrolet K1500 Pickup | 15 | 18 | 4.3 | M4C | FI |
| Chevrolet K1500 Pickup | 16 | 20 | 4.3 | M5 | FI |
| Chevrolet K1500 Pickup | 14 | 17 | 5.0 | L4 | FI |
| Chevrolet K1500 Pickup | 14 | 18 | 5.0 | M5 | FI |
| Chevrolet K1500 Pickup | 13 | 17 | 5.7 | L4 | FI |
| Chevrolet K1500 Pickup | 13 | 14 | 5.7 | M4C | FI |
| Chevrolet K1500 Pickup | 13 | 17 | 5.7 | M5 | FI |
| Chevrolet K1500 Pickup Diesel | 17 | 22 | 6.2 | L4 | FI |
| Chevrolet K1500 Pickup Diesel | 18 | 18 | 6.2 | M4C | FI |
| Chevrolet K2500 Pickup | 16 | 20 | 4.3 | L4 | FI |
| Chevrolet K2500 Pickup | 15 | 18 | 4.3 | M4C | FI |
| Chevrolet K2500 Pickup | 16 | 20 | 4.3 | M5 | FI |
| Chevrolet K2500 Pickup | 14 | 17 | 5.0 | L4 | FI |
| Chevrolet K2500 Pickup | 13 | 17 | 5.0 | M5 | FI |
| Chevrolet K2500 Pickup | 13 | 17 | 5.7 | L4 | FI |
| Chevrolet K2500 Pickup | 13 | 14 | 5.7 | M4C | FI |
| Chevrolet K2500 Pickup | 13 | 17 | 5.7 | M5 | FI |
| Chevrolet K2500 Pickup Diesel | 17 | 22 | 6.2 | L4 | FI |
| Chevrolet K2500 Pickup Diesel | 17 | 18 | 6.2 | M4C | FI |
| Chevrolet S10 Pickup | 18 | 25 | 2.8 | M5 | FI |
| Chevrolet S10 Pickup | 17 | 22 | 4.3 | L4 | FI |
| Dodge Dakota Pickup | 14 | 18 | 3.9 | L4 | FI |
| Dodge Dakota Pickup | 15 | 19 | 3.9 | M5 | FI |
| Dodge Power Ram 50 | 17 | 19 | 2.6 | A4 | 2bc |
| Dodge Power Ram 50 | 18 | 21 | 2.6 | M5 | 2bc |
| Dodge W100/W150 Pickup | 13 | 15 | 3.9 | A3 | FI |
| Dodge W100/W150 Pickup | 12 | 15 | 3.9 | M4C | FI |
| Dodge W100/W150 Pickup | 12 | 14 | 5.2 | A3 | FI |
| Dodge W100/W150 Pickup | 11 | 15 | 5.2 | M4C | FI |
| Dodge W100/W150 Pickup | 11 | 12 | 5.9 | A3 | FI |
| Dodge W100/W150 Pickup | 10 | 13 | 5.9 | M4C | FI |
| Dodge W250 Pickup | 11 | 13 | 5.2 | A3 | FI |
| Dodge W250 Pickup | 11 | 14 | 5.2 | M4C | FI |
| Dodge W250 Pickup | 10 | 11 | 5.9 | A3 | FI |
| Dodge W250 Pickup | 10 | 13 | 5.9 | M4C | FI |
| Ford F150 Pickup | 14 | 15 | 4.9 | A3 | FI |
| Ford F150 Pickup | 15 | 17 | 4.9 | M4C | FI |
| Ford F150 Pickup | 15 | 19 | 4.9 | M5 | FI |
| Ford F150 Pickup | 15 | 18 | 4.9 | M5C | FI |
| Ford F150 Pickup | 13 | 14 | 5.0 | A3 | FI |
| Ford F150 Pickup | 14 | 17 | 5.0 | L4 | FI |
| Ford F150 Pickup | 13 | 15 | 5.0 | M4C | FI |
| Ford F150 Pickup | 13 | 17 | 5.0 | M5 | FI |
| Ford F250 Pickup | 11 | 13 | 5.8 | A3 | FI |
| Ford F250 Pickup | 15 | 17 | 4.9 | M5C | FI |
| Ford F250 Pickup | 13 | 17 | 5.0 | L4 | FI |
| Ford F250 Pickup | 13 | 15 | 5.0 | M5 | FI |
| Ford F250 Pickup | 11 | 13 | 5.8 | A3 | FI |
| GMC K1500 Sierra | 16 | 20 | 4.3 | L4 | FI |
| GMC K1500 Sierra | 15 | 18 | 4.3 | M4C | FI |
| GMC K1500 Sierra | 16 | 20 | 4.3 | M5 | FI |
| GMC K1500 Sierra | 14 | 17 | 5.0 | L4 | FI |
| GMC K1500 Sierra | 14 | 18 | 5.0 | M5 | FI |
| GMC K1500 Sierra | 13 | 17 | 5.7 | L4 | FI |
| GMC K1500 Sierra | 13 | 14 | 5.7 | M4C | FI |
| GMC K1500 Sierra | 13 | 17 | 5.7 | M5 | FI |
| GMC K1500 Sierra Diesel | 17 | 22 | 6.2 | L4 | FI |
| GMC K1500 Sierra Diesel | 18 | 18 | 6.2 | M4C | FI |
| GMC K2500 Sierra | 16 | 20 | 4.3 | L4 | FI |
| GMC K2500 Sierra | 15 | 18 | 4.3 | M4C | FI |
| GMC K2500 Sierra | 16 | 20 | 4.3 | M5 | FI |
| GMC K2500 Sierra | 14 | 17 | 5.0 | L4 | FI |
| GMC K2500 Sierra | 13 | 17 | 5.0 | M5 | FI |
| GMC K2500 Sierra | 13 | 17 | 5.7 | L4 | FI |
| GMC K2500 Sierra | 13 | 14 | 5.7 | M4C | FI |
| GMC K2500 Sierra | 13 | 17 | 5.7 | M5 | FI |
| GMC K2500 Sierra Diesel | 17 | 22 | 6.2 | L4 | FI |
| GMC K2500 Sierra Diesel | 17 | 18 | 6.2 | M4C | FI |
| GMC S15 Pickup | 18 | 25 | 2.8 | M5 | FI |
| GMC S15 Pickup | 17 | 22 | 4.3 | L4 | FI |
| Isuzu Pickup | 18 | 19 | 2.6 | M5 | FI |
| Jeep Comanche Pickup | 18 | 23 | 2.5 | L4 | FI |
| Jeep Comanche Pickup | 20 | 24 | 2.5 | M4 | FI |
| Jeep Comanche Pickup | 21 | 24 | 2.5 | M4 | FI |
| Jeep Comanche Pickup | 19 | 24 | 2.5 | M5 | FI |
| Jeep Comanche Pickup | 20 | 23 | 2.5 | M5 | FI |
| Jeep Comanche Pickup | 15 | 19 | 4.0 | L4 | FI |
| Jeep Comanche Pickup | 17 | 22 | 4.0 | M5 | FI |
| Mitsubishi Truck | 17 | 19 | 2.6 | A4 | 2bc |
| Mitsubishi Truck | 18 | 21 | 2.6 | M5 | 2bc |
| Nissan Truck | 17 | 21 | 2.4 | M5 | FI |
| Nissan Truck | 15 | 17 | 3.0 | L4 | FI |
| Nissan Truck | 15 | 19 | 3.0 | M5 | FI |
| Toyota Truck | 18 | 20 | 2.4 | L4 | FI |
| Toyota Truck | 19 | 22 | 2.4 | M5 | FI |
| Toyota Truck | 15 | 18 | 3.0 | L4 | FI |
| Toyota Truck | 17 | 20 | 3.0 | M5 | FI |
| **Cargo Vans** | | | | | |
| Chevrolet Astro 2wd | 19 | 25 | 2.5 | L4 | FI |
| Chevrolet Astro 2wd | 21 | 26 | 2.5 | M5 | FI |
| Chevrolet Astro 2wd | 17 | 22 | 4.3 | L4 | FI |
| Chevrolet G10/20 Van 2wd | 17 | 24 | 4.3 | M5 | FI |
| Chevrolet G10/20 Van 2wd | 17 | 23 | 4.3 | L4 | FI |
| Chevrolet G10/20 Van 2wd | 16 | 19 | 4.3 | M4 | FI |
| Chevrolet G10/20 Van 2wd | 15 | 20 | 5.0 | L4 | FI |
| Chevrolet G10/20 Van 2wd | 14 | 18 | 5.0 | M4 | FI |
| Chevrolet G10/20 Van Diesel | 18 | 25 | 6.2 | L4 | FI |
| Chevrolet G10/20 Van Diesel | 20 | 24 | 6.2 | M4 | FI |
| Chevrolet G30 Van 2wd | 17 | 23 | 4.3 | L4 | FI |
| Dodge B150/B250 Van 2wd | 15 | 17 | 3.9 | A4 | FI |
| Dodge B150/B250 Van 2wd | 15 | 18 | 3.9 | L3 | FI |
| Dodge B150/B250 Van 2wd | 15 | 19 | 3.9 | L4 | FI |
| Dodge B150/B250 Van 2wd | 13 | 19 | 3.9 | M5 | FI |
| Dodge B150/B250 Van 2wd | 13 | 14 | 5.2 | A3 | FI |
| Dodge B150/B250 Van 2wd | 13 | 17 | 5.2 | L3 | FI |
| Dodge B150/B250 Van 2wd | 13 | 17 | 5.2 | L4 | FI |
| Dodge B350 Van 2wd | 11 | 13 | 5.9 | A3 | FI |
| Dodge B350 Van 2wd | 13 | 14 | 5.2 | A3 | FI |
| Dodge B350 Van 2wd | 13 | 17 | 5.2 | L4 | FI |
| Dodge B350 Van 2wd | 11 | 13 | 5.9 | A3 | FI |
| Ford Aerostar Van | 17 | 23 | 3.0 | L4 | FI |
| Ford E150 Econoline 2wd | 18 | 23 | 3.0 | M5 | FI |
| Ford E150 Econoline 2wd | 14 | 16 | 4.9 | A3 | FI |
| Ford E150 Econoline 2wd | 15 | 19 | 4.9 | M5 | FI |
| Ford E150 Econoline 2wd | 13 | 17 | 5.0 | L4 | FI |
| Ford E250 Econoline 2wd | 11 | 13 | 5.8 | A3 | FI |
| Ford E250 Econoline 2wd | 14 | 16 | 4.9 | A3 | FI |
| Ford E250 Econoline 2wd | 13 | 17 | 5.0 | L4 | FI |
| GMC G15/25 Vandura 2wd | 11 | 13 | 5.8 | A3 | FI |
| GMC G15/25 Vandura 2wd | 17 | 23 | 4.3 | L4 | FI |
| GMC G15/25 Vandura 2wd | 16 | 19 | 4.3 | M4 | FI |
| GMC G15/25 Vandura 2wd | 15 | 20 | 5.0 | L4 | FI |
| GMC G15/25 Vandura 2wd | 14 | 18 | 5.0 | M4 | FI |
| GMC G15/25 Vandura 2wd | 15 | 20 | 5.7 | L4 | FI |
| GMC G15/25 Vandura Diesel | 18 | 25 | 6.2 | L4 | FI |
| GMC G15/25 Vandura Diesel | 20 | 24 | 6.2 | M4 | FI |
| GMC G35 Vandura 2wd | 17 | 23 | 4.3 | L4 | FI |
| GMC Safari 2wd | 19 | 25 | 2.5 | L4 | FI |
| GMC Safari 2wd | 21 | 26 | 2.5 | M5 | FI |
| GMC Safari 2wd | 17 | 22 | 4.3 | L4 | FI |
| GMC Safari 2wd | 17 | 24 | 4.3 | M5 | FI |
| Mitsubishi Van | 20 | 22 | 2.4 | L4 | FI |
| Toyota Van 2wd | 21 | 23 | 2.2 | L4 | FI |
| Toyota Van 2wd | 22 | 24 | 2.2 | M5 | FI |
| Toyota Van 4wd | 20 | 21 | 2.2 | L4 | FI |
| **Passenger Vans** | | | | | |
| Chevrolet Astro 2wd | 17 | 22 | 4.3 | L4 | FI |
| Chevrolet Astro 2wd | 17 | 24 | 4.3 | M5 | FI |
| Chevrolet G10/20 Sportvan 2wd | 17 | 23 | 4.3 | L4 | FI |
| Chevrolet G10/20 Sportvan 2wd | 16 | 18 | 4.3 | M4 | FI |
| Chevrolet G10/20 Sportvan 2wd | 14 | 17 | 5.0 | L4 | FI |
| Chevrolet G10/20 Sportvan 2wd | 14 | 19 | 5.7 | L4 | FI |
| Chevrolet G10/20 Sportvan Diesel | 16 | 21 | 6.2 | L4 | FI |
| Chevrolet G30 Sportvan 2wd | 18 | 21 | 6.2 | M4 | FI |
| Dodge B150/B250 Wagon 2wd | 13 | 15 | 5.7 | L4 | FI |
| Dodge B150/B250 Wagon 2wd | 14 | 16 | 3.9 | A4 | FI |
| Dodge B150/B250 Wagon 2wd | 14 | 16 | 3.9 | L3 | FI |
| Dodge B150/B250 Wagon 2wd | 14 | 18 | 3.9 | L4 | FI |
| Dodge B150/B250 Wagon 2wd | 13 | 17 | 3.9 | M5 | FI |
| Dodge B150/B250 Wagon 2wd | 12 | 14 | 5.2 | A3 | FI |
| Dodge B150/B250 Wagon 2wd | 13 | 16 | 5.2 | L3 | FI |
| Dodge B150/B250 Wagon 2wd | 13 | 16 | 5.2 | L4 | FI |
| Dodge B150/B250 Wagon 2wd | 10 | 12 | 5.9 | A3 | FI |
| Dodge B350 Wagon 2wd | 12 | 14 | 5.2 | A3 | FI |
| Dodge B350 Wagon 2wd | 13 | 16 | 5.2 | L4 | FI |
| Dodge B350 Wagon 2wd | 10 | 12 | 5.9 | A3 | FI |
| Ford Aerostar Wagon | 17 | 22 | 3.0 | L4 | FI |
| Ford E150 Club Wagon | 16 | 23 | 3.0 | M5 | FI |
| Ford E150 Club Wagon | 13 | 15 | 4.9 | A3 | FI |
| Ford E150 Club Wagon | 13 | 17 | 5.0 | L4 | FI |
| GMC G15/25 Rally 2wd | 11 | 13 | 5.8 | A3 | FI |
| GMC G15/25 Rally 2wd | 17 | 23 | 4.3 | L4 | FI |
| GMC G15/25 Rally 2wd | 16 | 18 | 4.3 | M4 | FI |
| GMC G15/25 Rally 2wd | 14 | 17 | 5.0 | L4 | FI |
| GMC G15/25 Rally 2wd | 14 | 19 | 5.7 | L4 | FI |
| GMC G15/25 Rally 2wd Diesel | 16 | 21 | 6.2 | L4 | FI |
| GMC G15/25 Rally 2wd Diesel | 18 | 21 | 6.2 | M4 | FI |
| GMC G35 Rally 2wd | 13 | 15 | 5.7 | L4 | FI |
| GMC Safari 2wd | 17 | 22 | 4.3 | L4 | FI |
| GMC Safari 2wd | 17 | 24 | 4.3 | M5 | FI |
| Mitsubishi Wagon | 18 | 21 | 2.4 | L4 | FI |
| Toyota Van 2wd | 21 | 23 | 2.2 | L4 | FI |
| Toyota Van 2wd | 22 | 24 | 2.2 | M5 | FI |
| Toyota Van 4wd | 20 | 21 | 2.2 | L4 | FI |
| Toyota Van 4wd | 20 | 22 | 2.2 | M5 | FI |
| Volkswagen Vanagon Syncro 4wd | 16 | 16 | 2.1 | M5C | FI |
| Volkswagen Vanagon 2wd | 17 | 18 | 2.1 | A3 | FI |
| Volkswagen Vanagon 2wd | 18 | 19 | 2.1 | M4 | FI |
| **Special Purpose Vehicles/2wd** | | | | | |
| Chevrolet R1500 Suburban 2wd | 14 | 19 | 5.7 | L4 | FI |
| Chevrolet R1500 Suburban 2wd Diesel | 16 | 24 | 

# Domestic truck sales set record in Canada

By Bill Vance
SPECIAL CORRESPONDENT

Although cars retained their sales strength in Canada during August, domestic trucks really soared.

Each of the Big 3 set a truck sales record in August. Ford sales rose 16.48 percent over a year ago; General Motors was up 12.09 percent; and Chrysler, with a 9.56 percent gain, chalked up its 18th consecutive month of record-breaking truck sales, thanks to its minivans and Jeeps.

Overall domestic truck sales of 35,206 were up 13.03 percent over the year-ago month, and year-to-date truck sales were ahead by a healthy 11.04 percent.

Among imported trucks, Mazda sold almost twice as many units as it did last August, rising to 1,007 from 519, and GM sold 320 imported trucks, five times as many as the 60 it sold in August 1987.

Toyota was down 6.71 percent; Nissan was off 12.45; and Suzuki lost 19.10 percent.

August car sales held up well, too, thanks to year-end clear-out incentives. Four of the five companies that build cars in Canada showed year-to-year increases in sales of their domestically built cars, ranging from Honda's 52.34 percent gain to GM's 1.28 percent.

Ford was up 15.31 percent, while Chrysler fell off 6.15 percent from last August. Volvo sales rose to 301 from 210.

For the year, domestic sales were 2.86 percent ahead of the first eight months of 1987.

Almost half of the car importers showed sales gains in August, led by Suzuki, which was up by 250.40 percent, followed by Honda, up 49.24 percent; Mazda, up 19.84 percent; and Toyota, up 14.39 percent.

Overall, 1988 Canadian car sales managed to keep ahead of the first eight months of 1987, albeit by a slim 0.37 percent. The totals were 731,390 this year, compared with 728,726 last year.

## CANADIAN CAR AND TRUCK SALES

| | Aug. 1988 | Aug. 1987 | 8 mos., 1988 | 8 mos., 1987 |
|---|---|---|---|---|
| **Domestic cars** | | | | |
| General Motors | 28,004 | 27,690 | 247,761 | 247,645 |
| Ford | 15,753 | 13,661 | 136,014 | 132,429 |
| Chrysler | 9,963 | 10,616 | 104,452 | 96,606 |
| Honda | 2,378 | 1,561 | 9,699 | 7,322 |
| Volvo | 301 | 210 | 1,674 | 1,643 |
| **Domestic car total** | **56,399** | **53,698** | **[illegible]** | **487,645** |
| **Import cars** | | | | |
| Toyota | 6,945 | 5,984 | 48,103 | 46,324 |
| Honda | 5,026 | 3,369 | 42,220 | 42,594 |
| General Motors | 2,836 | 3,028 | 20,046 | 14,581 |
| Volkswagen | 2,880 | 4,104 | 24,892 | 26,777 |
| Nissan | 2,680 | 2,892 | 21,012 | 24,670 |
| Mazda | 2,422 | 2,021 | 20,298 | 17,563 |
| Hyundai | 2,328 | 3,816 | 21,285 | 36,008 |
| Chrysler | 1,450 | 1,372 | 4,049 | 4,034 |
| Suzuki | 1,328 | 379 | 5,578 | 1,986 |
| Subaru | 788 | 1,174 | 5,256 | 5,265 |
| Ford | 728 | 948 | 4,524 | 6,920 |
| BMW | 432 | 429 | 3,430 | 3,306 |
| Mercedes-Benz | 382 | 375 | 2,975 | 3,118 |
| Volvo | 317 | 451 | 2,621 | 3,930 |
| Jaguar | 186 | 298 | 1,473 | 1,833 |
| Saab | 133 | 109 | 964 | 1,139 |
| Lada | 67 | 71 | 720 | 589 |
| Skoda | 25 | 47 | 265 | 444 |
| **Import car total** | **30,912** | **30,988** | **229,791** | **241,981** |
| **TOTAL — ALL CARS** | **87,311** | **84,686** | **731,390** | **728,726** |
| **Domestic trucks (including vans)** | | | | |
| GM | 15,515 | 13,841 | 102,954 | 108,322 |
| Ford | 12,298 | 10,530 | 102,676 | 95,311 |
| Chrysler | 7,425 | 6,777 | 78,573 | 52,395 |
| **Domestic truck total** | **35,198** | **31,148** | **284,303** | **256,028** |
| **Import trucks (including vans)** | | | | |
| Toyota | 1,140 | 1,222 | 10,329 | 9,715 |
| Nissan | 1,174 | 1,341 | 9,402 | 11,576 |
| Mazda | 1,007 | 519 | 7,991 | 7,278 |
| GM | 320 | 60 | 913 | 523 |
| Suzuki | 298 | 368 | 3,751 | 2,168 |
| Chrysler | 226 | 467 | 2,118 | 2,423 |
| Volkswagen | 88 | 82 | 681 | 945 |
| Lada | 15 | 11 | 101 | 84 |
| **Import truck total** | **4,288** | **4,068** | **35,286** | **35,112** |
| **TOTAL — ALL TRUCKS** | **39,484** | **35,216** | **319,589** | **291,140** |
| **TOTAL — CARS, TRUCKS** | **123,795** | **118,786** | **1,050,97[illegible]** | **1,019,866** |

# Canadian goal

## *Big 3 aim at higher shares*

By Alex Law
SPECIAL CORRESPONDENT

TORONTO — Each of the domestic automakers is forecasting the same thing for the 1989 model year in Canada: a stagnant total market, but increased penetration for themselves.

In separate press conferences, General Motors of Canada, Chrysler Canada and Ford Motor Co. of Canada estimated sales at just over one million cars (for the sixth consecutive year) and just under half a million trucks.

And each predicted an increased share of both markets.

GM of Canada President George Peapples forecast a passenger-car market of 1,070,000 units for the 1989 model year, with GM selling 400,000, including domestic and imported cars. That would "further improve our market share by 1.2 percentage points to 37.7," Peapples said. "That's more than two full points better than we did in 1987."

Maurice J. Closs, Chrysler Canada president, told his dealers that he wants their target to be "one in five" sales, but he was somewhat more restrained when talking to the media about Chrysler's share of the one-million-plus market.

Closs said he wants Chrysler's car market share to rise to 17 percent. For the first eight months of 1988, Chrysler had 14.83 percent.

Kenneth W. Harrigan, Ford of Canada president, is projecting about 1,060,000 cars for the 1989 model year, and thinks Ford will get about 21 percent of that market. For the first eight months of calendar 1988, Ford took 19.49 percent.

In truck sales, the consensus forecast is for about 500,000 units. GM said it wants about 37 percent; Ford's target is 31 percent; and Chrysler has its eye on 23 percent.

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# Lawsuit filed in U.S. court on Ford van fires

By Helen Kahn
SENIOR CORRESPONDENT

Several businesses and individuals have filed suit in U.S. District Court in Denver, charging Ford Motor Co. with negligence in the design and manufacture of vans.

Plaintiffs charge they were victims of fires in Ford Econoline vans or motor homes built on Ford van chassis.

A similar, companion lawsuit was filed in Colorado state court. The plaintiffs hope to have the federal lawsuit certified as a class action, charging breach of expressed and implied warranties.

The suit was filed in U.S. District Court by ABC Carriers Inc., Vanex Inc., Albatross Adventures Inc. (doing business as Adventures to Vail), William Michael Arnold, Massachusetts-based Orange Trading Co., Richard and Mary Ogles and Bernard and Helen Cowsert.

The suit says that around Sept. 9, 1987, Ford issued a recall on the vans but dealers weren't notified until early 1988 and van owners weren't told until March 1988. All the Ford vehicles burned suddenly and catastrophically, whether or not the Ford recall work had been done, the suit claims.

The suit also was filed on behalf of buyers and/or owners and lessees of 1983-87 Ford E-350 vans and motor homes built on Ford chassis with dual fuel tanks.

Plaintiffs seek unspecified damages and want Ford to buy back the vehicles. They also want the court to force Ford to take all possible action to notify buyers — including buyers of used vehicles — of the problems.

A Ford spokesman said, "We have complete confidence in the (E-350) recall and its effectiveness and we are urging those who have not had the work done to have it completed."


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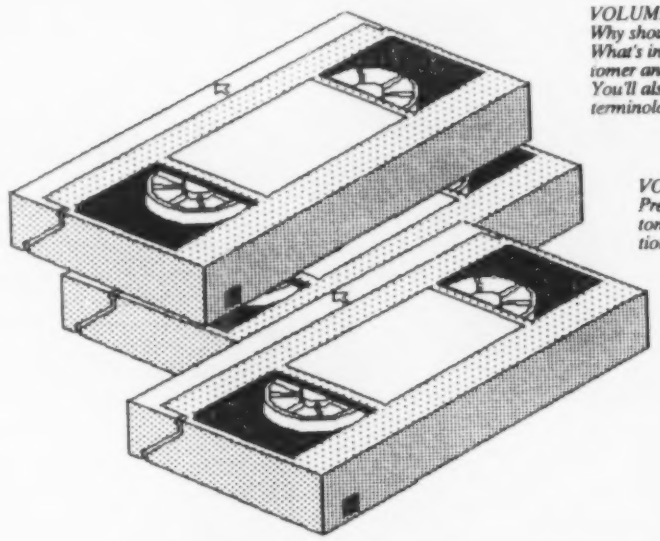

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# AUCTION DATES

## Chrysler Motors

Oct. 4 — Dallas Auto Auction, Grand Prairie, Texas; Arena Auto Auction, Chicago; Greensboro Auto Auction, Greensboro, N.C.; Portland Auto Auction, Portland, Ore.; Riverside Auto Auction, Riverside, Calif.; and Hatfield Auto Auction, Hatfield, Pa.

Oct. 5 — A.D.E. of Birmingham, Birmingham, Ala.; Columbus Fair Auto Auction, Obetz, Ohio; and Southern Auto Auction, Warehouse Point, Conn.

## Ford Motor Co.

Oct. 4 — South Seattle Auto Auction, Kent, Wash.

Oct. 5 — Atlanta Auto Auction, Red Oak, Ga.; Wednesday Auto Auction, Obetz, Ohio; Southern California Auto Auction, Fontana, Calif.; and Newburgh Auto Auction Inc., Newburgh, N.Y.

## General Motors

Oct. 4 — Harrisonburg Auto Auction, Harrisonburg, Va.; Florida Auto Auction of Orlando, Ocoee, Fla.; and A.D.E. of Birmingham, Moody, Ala.

Oct. 5 — Metro Auto Auction of Kansas City, Lee's Summit, Mo.; Minneapolis Northstar Auto Auction, Shakopee, Minn.; Golden Gate Auto Auction, Fremont, Calif.; and Indianapolis Auto Auction, Indianapolis

### Used Car Sales
**Auction Averages**

| | |
|---|---|
| September 88 | $5,749 |
| Month ago | $6,102 |
| Year ago | $6,043 |

### Model Breakdown
**Auction Averages**

| | SEPT. 1988 | AUGUST 1988 | JULY 1988 |
|---|---|---|---|
| 1988 ... | $9,663 | $12,473 | $11,498 |
| 1987 ... | $7,795 | $7,919 | $8,487 |
| 1986 ... | $6,806 | $6,891 | $6,830 |
| 1985 ... | $5,540 | $5,819 | $5,881 |
| 1984 ... | $4,104 | $4,308 | $4,378 |
| 1983 ... | $3,583 | $3,583 | $3,718 |
| 1982 ... | $2,508 | $2,479 | $2,484 |
| 1981 ... | $1,840 | $1,887 | $1,952 |
| Overall Average | $5,749 | $6,019 | $5,855 |

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**Fort Worth Auto Auction** (div. of GECAA), 2245 Jacksboro Hwy., Ft. Worth, TX 76114. Sale every Thursday. Contact: George Horton, 817-626-5494.

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# Paris, Frankfurt, Tokyo, Geneva . . . Detroit?

By Dutch Mandel
AUTOMOTIVE NEWS STAFF REPORTER

At the Paris Auto Show, a delegation of Detroit businessmen looks with enthusiasm at the latest in automotive technology. But their interest is in more than just the four-wheeled Paris exhibits.

They are watching the show management itself.

They are members of the Detroit Automobile Dealers Association and the visit is to prepare them in their charge to take the Detroit auto show to the big leagues.

If successful, this dealer-backed show will achieve world-class status and become the North American equivalent of the major factory-sponsored shows in Tokyo, Paris and Frankfurt.

If the extensive pre-show planning is an indication of their commitment to succeed, then the Detroit show — newly renamed the North American International Auto Show — might well become not just the premier auto show in the United States, but one of the top exhibitions worldwide.

The reason for their enthusiasm is growth — in the number of exhibitors, and in usable floorspace for the Detroit-based show, which is scheduled Jan. 7-15.

Consider: Next year, the number of exhibitors will nearly double to 42 from 24 the year previous. Display space at Cobo Hall's exhibition area will increase from some 270,000 square feet to nearly 420,000 — with 100,000 square feet more slated to be ready for the 1990 show.

Add to this equation the world premiers of the up-market Toyota Lexus and Nissan Infiniti sedans, the first U.S. peek at a half-dozen European models, as well a first-time viewing of Chevrolet's Lumina and Pontiac's Transport minivans, and the North American International Auto Show already begins to take on increasing importance.

The call to have a world-class auto exhibition in Detroit has been one that has rung loudly in years past. But scheduling, show display area constraints, and a dearth of international journalists, has always relegated Detroit to second string status behind mid-February's Chicago Auto Show.

All of those problems have been addressed for the 1989 show, and no one is more pleased than the manufacturers themselves.

"We would agree that Detroit is the appropriate place for the premier show in America," said a Lexus spokesman. He said the scheduling change was a primary reason for choosing Detroit as the venue at which to debut the high-line Toyota.

"Detroit gives us a chance to debut a car that we think will be attractive to the market," he said. "We are encouraged by the fact that the show's name change increases its scope to include journalists from other countries.

"If we didn't debut the car at Detroit, we would have wanted to wait for Chicago — the traditional site."

Organizers of the other traditionally early show, Los Angeles, said Detroit's move to achieve world-class show status no way threatens their show's success. "Anyone can be called an international show, but Detroit doesn't have the No. 1 market, the status, the position of L.A. that determines a show's popularity," said Ben Orloff, general manager of the L.A. auto show.

A Detroit Automobile Dealers Association spokesman said "we have received tremendous support from the manufacturers. We're having some of the manufacturers tell us they're going to introduce product, but won't tell us what."

Believed to be on the secret Detroit agenda are the redesigned 1990 Lincoln Town Car as well as the Mazda MX05 "sports light" — a production version of the firm's MX04 Tokyo Show car. The spokesman also predicted some dozen concept and show cars will debut.

He said while some of the international auto shows have a bias toward the host industry when it comes to assigning prime floor space, that will not be the case in Detroit. He said domestic manufacturers will be housed in the current Cobo Hall space, while the European and Asian automakers will be located in the new wing.

A dealer association spokesman said that because of this show's international scope, a strong push is under way to invite foreign press members, with two days set aside specifically for their review.

It is a plan that is not without its symbiotic purpose: A greater influx of international press would inspire manufacturers to look upon Detroit as an important venue at which to show new product.

Michelin Tire Corp. — doing its part — recently announced it would sponsor a media center with telephones, telecopiers, translation services, a hospitality center and a public relations staff to assist the media and show sponsors.

One mainstay of the show — a black-tie charity reception — will be held on the evening of Jan. 6. Some 6,000 partygoers are expected to attend.

The dealer association spokesman said moving the show dates closer to the New Year reflects a commitment to elevating the show's status. In making the move, organizers can call it the first show of the year — previously the bragging rights of the Los Angeles show.

"It was a strategic decision to move up the date and go head-to-head with Los Angeles," he said. But he added, "We're not doing this to one-up Chicago or one-up L.A. We want the Detroit show to be the best in the U.S."

# AUCTIONS

FROM PAGE 1

Anglo American Auto Auctions and GE Capital Auto Auctions — say 1988 is shaping up to be another stellar year as the National Auto Auction Association gears up for its annual convention in Atlanta this week.

Eight of the top 10 auctions are affiliated with those three companies, while the other two are independents.

The Big 3 expect registrations of about one million vehicles each with a conversion rate of 60 percent. Consignments of another three million vehicles among the rest of the NAAA members is a reasonable estimate, industry sources say.

Although they agree 1988 volumes will surpass 1987 totals, actual numbers are difficult to estimate because the NAAA's nearly 200 members lack a central reporting system.

But the top auction in the nation — Manheim's Florida Auto Auction of Orlando — reported its volume of cars sold in the first nine months of this year surpassed last year's 12-month total.

"We are already over 70,000 vehicles for 1988 mainly because we handle later models," said Joe Greco, manager of the auction. A location in central Florida with huge numbers of daily rental companies serving thousands of vacationers contributes to its success.

The average price for vehicles sold at the Orlando operation was $9,200 last year up $100 over 1986. About 40 percent of its business is from daily rental companies and manufacturer program vehicles. Last year, Orlando had sales of $643 million on 70,000 vehicles.

Program vehicles sold to daily rental companies by the manufacturers are repurchased at a predetermined residual value and resold as used cars through auctions. The average price for those cars nationally in 1987 was $9,200, while the average price for dealer consignment vehicles hovers at $5,200.

According to industry officials, factory program cars have a 98 percent conversion rate (the percentage of cars sold compared to the number consigned). Fleet and lease vehicles, on the other hand, are at 68 percent and dealer-consigned used cars are between 45 and 50 percent.

Michael J. Richardson, president and chief executive of Nashville-based Anglo American, said manufacturers will continue repurchase programs with daily rent-a-car agencies through 1990.

"Program cars are increasing in volume but it is cyclical," he said. "As the basic economic environment improves, the manufacturers step up production and become involved in the program vehicles. But when the market declines the first thing cut will be the program cars."

Darryl E. Ceccoli, vice president of operations for Atlanta-based Manheim, said auctions are seeing more repossessions from financial institutions because owners who have purchased vehicles with long-term financing are unhappy that they are worth less than they owe on them.

As the business grows, the majors are on the prowl for new locations. Manheim, the nation's largest chain has grown this year from 17 to 23 auctions. That compares with Anglo American's 21 locations and GE's 17 auctions. GE is based in Barrington, Ill.

"It has been the biggest single acquisition year in the company's history," said Manheim's Ceccoli.

The second largest volume auction is another Manheim operation, National Auto Dealers Exchange in Bordentown, N.J., with sales of $408 million in 1987 on 79,000 vehicles, up from $395 million on a unit volume of 77,000 in 1986.

Anglo American's Dallas Auto Auction in Grand Prairie, Texas, moved from 10th to third on sales of $399.4 million for 52,864 vehicles at an average selling price of $7,557 last year. It had sales of $262.8 million on 36,000 units in 1986.

Richardson attributed the strong performance to a new management tack at the operation.

"We split the top responsibilities of the general manager, creating two positions at the same level," he explained. "There is a general manager for promotion and marketing, and another for administration. Dallas is now far and away our top earner."

Of the 10 biggest auctions only two are independent — Auto Dealers Exchange of Indianapolis, and Southern Auto Auction in East Windsor, Conn., which ranked seventh and 10th, respectively.

Auto Dealers Exchange sales rose dramatically to $357.5 million in 1987 from $279.0 million a year earlier while volume climbed only 3,000 units to 65,000. But average price rose by $1,000 to $5,500 per vehicle.

Larry Tribble, owner of Southern Auto Auction, said the auction experienced 5 percent growth in 1987 over the prior year with sales of $315 million for 59,000 vehicles at an average selling price of about $5,300.

California Auto Dealers Exchange in Anaheim, Calif. showed modest growth in 1987 with sales of $395 million on 79,000 vehicles, up from $385 million on 78,000 units a year earlier. Price per vehicle has remained steady at roughly $5,000.

Southern California Auto Auction in Fontana, Calif., had sales of $367 million on 72,158 vehicles in 1987, up from $302 million on 52,000 units a year earlier. Average sales price was $5,100.

Clanton's Auto Auction in Darlington, S.C., slipped to $367 million in 1987 from $387 million in 1986. Yet unit volume rose to 56,350 from 51,500 in 1986. The average sale price per vehicle dipped to $6,500 from $7,500.

Aptco Auto Auction in Taylor, Mich., had sales of $353.9 million on a unit volume of 47,874 in 1987 up from $274 million on 36,500 the prior year.

## GM buys 40 Cincinnati Milacron robots

GREENWOOD, S.C. — General Motors has awarded a $3-million order for 40 robots to Cincinnati Milacron's industrial robot division.

The robots will be installed at GM's assembly plant in Baltimore, where Chevrolet Astro and GMC Safari minivans are built.

# EPA sounds a warning

*Asks immediate ban on air-cooling agent*

By Helen Kahn
SENIOR CORRESPONDENT

WASHINGTON — In a change of position, the EPA is asking for an immediate worldwide end to the use of chlorofluorocarbons — used in automotive air conditioners — because it says the danger to the protective stratospheric ozone layer is far greater than first suspected.

The auto industry and E.I. du Pont de Nemours & Co., automotive supplier of Freon, a brand-named chlorofluorocarbon, already are searching for a replacement.

Last March, DuPont said it had started to phase out all of its chlorofluorocarbon production, including Freon, and would complete the phase-out by the year 2000.

EPA Chief Lee M. Thomas testified on the subject of chlorofluorocarbons before a House subcommittee.

He said a new analysis of recent studies showed that the 50 percent phase-out by 1999, earlier endorsed by EPA, was not enough to stabilize ozone levels.

Less than a year ago in Montreal, 46 countries signed an international treaty that called for a production freeze at 1986 levels and a 50 percent phased reduction of use of chlorofluorocarbons (used in auto air conditioning and in foam upholstery) and of halons (used in fire extinguishers).

The United States and seven other countries have ratified the Montreal treaty but three more ratifications by developed countries are needed for it to become effective.

Now, EPA is warning Congress that even if all countries agree to start phasing out chlorofluorocarbons and halons, it will not be enough.

EPA said that concentration of ozone-eating chemicals in the upper atmosphere will double in the next 87 years.

Half that projected amount, aggregated over the last 25 years, has already resulted in a 3 percent depletion of upper ozone.

The CFC Alliance, a group of producers and users, endorsed EPA's change in position even before Thomas testified.

The Natural Resources Defense Council wants the United States to start its own rapid phase-out and not wait for other countries.

Scientists believe chlorofluorocarbons live 100 years or more in the upper atmosphere. They report there already is a sizable hole in the upper ozone layer over Antarctica.

The primary dangers seem to be increases in skin cancer and eye cataracts in humans as well as damage to wildlife and plants.

# OBITUARIES

### Charles C. Brown

BRANSON, Mo. — Charles Carter Brown, 71, retired St. Louis zone manager for Chevrolet, died recently.

### George Burt

WINDSOR, Ontario — George Burt, 85, who helped found the Canadian region of the UAW, died Sept. 6. He served as regional director — a post equivalent to the presidency of the present Canadian Auto Workers union — from 1939 to 1968, when he retired. He worked on the assembly line at General Motors' Oshawa assembly plant in the 1930s and became the local union's first treasurer in 1938.

### Charles E. Eckhardt

OKLAHOMA CITY — Charles E. Eckhardt, 68, former owner of Eckhardt Motors (Volkswagen), died Sept. 16. He sold the dealership in 1981. He had been executive director of the Oklahoma Motor Vehicle Commission since 1985 and was president of the Oklahoma Automobile Dealers Association in 1979.

# Car output edges ahead to 148,876

By Karen Dietkowski
SPECIAL CORRESPONDENT

Last week's targeted domestic auto production of 148,876 units increased slightly (0.94 percent) over the prior week's 147,496 and was 4.68 above the year-ago week's 142,216.

Last week's output was shared as follows: General Motors, 51.45 percent; Ford Motor Co., 23.75 percent; Chrysler Motors, 14.61 percent; Honda of America Manufacturing Inc., 5.00 percent; Mazda Motor Manufacturing (U.S.A.) Corp., 3.19 percent; Nissan Motor Manufacturing Co., U.S.A., 1.93 percent; and New United Motor Manufacturing Inc., 0.07 percent.

Truck output was estimated at 83,857 units last week, 5.49 percent below the previous week's 88,732, but 8.17 percent above the year-ago week's 77,526.

NUMMI's Fremont, Calif., plant resumed output last week after being down for model changeover. The plant is building the 1989 Toyota Corolla sedan and will begin assembling the new Chevrolet Geo Prizm in November.

Ford Motor Co. will add a second shift at its Edison, N.J., assembly plant in March to offset lost Escort production when the Wayne, Mich., plant goes down in November 1989 for retooling. Wayne will build the new Escort to be introduced in early 1990.

Bronco II assembly was halted for model changeover last week at Ford's Louisville, Ky., plant. The plant also builds the Ford Ranger.

Daily overtime is scheduled this week at all Ford plants except Lorain, Ohio; Wixom, Mich; and Atlanta.

Ford's Kansas City, Mo.; Norfolk, Va.; Lorain; and Michigan truck plants were scheduled for overtime last Saturday.

GM slated overtime last Saturday at its Linden, N.J.; Oklahoma City; Buick City (Flint, Mich.); and Lordstown, Ohio, car assembly plants.

Also slated for Saturday overtime were GM's Flint; Moraine, Ohio; and Pontiac West, Mich., truck assembly plants. The Pontiac Central truck plant was closed last week for schedule adjustment.

Chrysler's St. Louis (No. 2) and Toledo, Ohio, plants were slated for overtime last Saturday. As previously reported, Chrysler's Newark, Del., plant is down for model changeover.

# Week's build rises in Canada

Canadian carmakers scheduled production of 21,263 units last week, 2.63 percent above the previous week's 20,719 and 30.28 percent above the year-ago week's 16,321.

Truck output was slated at 21,555 units last week, slightly above the prior week's 21,461 and 17.52 percent above the year-ago week's 18,342.

General Motors scheduled overtime last Saturday at its Oshawa, Ontario, and Scarborough, Ontario, truck assembly plants.

Volvo's car plant in Halifax, Nova Scotia, remains on strike. Negotiations are continuing.

| U.S. CAR | Week Ended Oct. 1, 1988 | Week Ended Oct. 3, 1987 | Week Ended Sept. 24, 1988 | Sept. to Date | Jan. 1 to Oct. 1, 1988 | Jan. 1 to Oct. 3, 1987 |
|---|---|---|---|---|---|---|
| Alliance | 0 | 0 | 0 | 0 | 0 | 15,994 |
| Total Eagle | 0 | 0 | 0 | 0 | 0 | 15,994 |
| Horizon | 1,999 | 893 | 1,471 | 8,199 | [illegible] | 34,928 |
| Sunrunner | 2,100 | 1,891 | 2,149 | 8,985 | 76,800 | 69,770 |
| Reliant | 2,100 | 3,800 | 2,167 | 8,935 | 69,159 | 83,576 |
| Caravelle | 0 | 720 | 0 | 0 | 9,057 | 35,391 |
| Gran Fury | 200 | 280 | 150 | 892 | 16,710 | 5,035 |
| Total Plymouth | 5,999 | 7,324 | 5,086 | 24,995 | 229,582 | 239,709 |
| LeBaron K | 0 | 916 | 0 | 0 | 7,912 | 52,439 |
| LeBaron J | 1,700 | 2,801 | 1,965 | 9,070 | 57,930 | 66,405 |
| LeBaron GTS | 199 | 818 | 249 | 335 | 7,661 | 30,435 |
| N. Yorker F-Class | 0 | 0 | 0 | 0 | 0 | 58,368 |
| N. Yorker C-Class | 2,300 | 1,854 | 2,269 | 9,095 | 78,891 | 3,169 |
| Fifth Avenue | 963 | 3,041 | 948 | 4,002 | 23,082 | 46,368 |
| Total Chrysler | 5,059 | 8,630 | 5,357 | 21,992 | 174,845 | 275,295 |
| Omni | 1,400 | 644 | 1,470 | 6,070 | 59,412 | 30,061 |
| Daytona | 1,809 | 1,903 | 2,008 | 8,185 | 57,270 | 46,611 |
| Shadow | 2,200 | 1,843 | 2,254 | 9,140 | 76,491 | 72,544 |
| Aries | 2,199 | 3,392 | 2,149 | 8,810 | 64,517 | 68,395 |
| Dodge 600 | 0 | 647 | 0 | 0 | 8,540 | 31,612 |
| Dynasty | 2,999 | 267 | 2,992 | 11,392 | 79,139 | 775 |
| Lancer | 200 | 478 | 153 | 737 | 6,745 | 10,973 |
| Diplomat | 300 | 567 | 367 | 1,421 | 14,823 | 9,599 |
| Total Dodge | 10,809 | 9,711 | 11,092 | 45,894 | 366,943 | 295,599 |
| CHRYSLER MOTORS | 21,759 | 25,695 | 22,407 | 92,181 | 771,369 | 828,592 |
| Escort | 9,841 | 9,364 | 9,464 | 37,997 | 297,469 | 280,198 |
| Mustang | 4,607 | 4,607 | 4,359 | 18,503 | 152,169 | 163,513 |
| Tempo | 3,933 | 1,319 | 3,139 | 14,597 | 138,151 | 103,460 |
| Taurus | 8,213 | 7,916 | 8,492 | 34,396 | 286,863 | 310,938 |
| Thunderbird | 0 | 3,994 | 0 | 0 | 90,245 | 119,399 |
| Total Ford Div. | 26,394 | 25,999 | 25,414 | 105,493 | 974,999 | 987,479 |
| Lynx | 0 | 0 | 0 | 0 | 0 | 21,352 |
| Topaz | 1,961 | 459 | 1,371 | 6,010 | 52,647 | 33,992 |
| Cougar | 0 | 2,991 | 0 | 0 | 99,699 | 109,422 |
| Sable | 2,902 | 1,146 | 2,737 | 11,311 | 160,799 | 94,675 |
| Total Mercury | 4,393 | 4,457 | 4,108 | 17,398 | 223,131 | 259,611 |
| Continental | 1,539 | 0 | 1,529 | 6,574 | 37,281 | 9,616 |
| Mark VII | 795 | 662 | 769 | 3,286 | 19,759 | 21,417 |
| Lincoln | 2,295 | 3,410 | 2,292 | 9,903 | 95,977 | 107,704 |
| Total Lincoln | 4,599 | 4,092 | 4,584 | 19,796 | 153,016 | 138,731 |
| Total L-M Division | 8,971 | 8,549 | 8,692 | 37,089 | 375,147 | 385,342 |
| FORD MOTOR CO. | 35,365 | 34,539 | 34,106 | 142,546 | [illegible]13 | 1,382,821 |
| Skyhawk | 530 | 1,225 | 831 | 2,236 | 13,461 | 24,479 |
| Skyhawk/Somerset | 1,177 | 1,909 | 1,113 | 5,057 | 36,776 | 47,932 |
| Century | 4,788 | 1,087 | 4,714 | 19,736 | 94,439 | 122,373 |
| Regal (rwd) | 0 | 635 | 0 | 0 | 0 | 33,393 |
| Riviera | 599 | 319 | 599 | 2,097 | 5,991 | 9,913 |
| Electra | 1,999 | 1,916 | 1,222 | 5,702 | 62,226 | 68,613 |
| LeSabre (fwd) | 3,445 | 4,721 | 3,020 | 12,241 | 97,895 | 113,399 |
| LeSabre (rwd) | 0 | 206 | 234 | 1,762 | 10,112 | 6,884 |
| Reatta | 200 | 0 | 224 | 874 | 5,403 | 0 |
| Total Buick | 12,846 | 12,018 | 11,748 | 49,823 | 327,899 | 427,177 |
| Cimmaron | 0 | 321 | 0 | 0 | 3,888 | 8,909 |
| Eldorado | 695 | 499 | 672 | 2,336 | 25,404 | 14,702 |
| Seville | 328 | 544 | 505 | 1,708 | 16,712 | 12,897 |
| Brougham (rwd) | 903 | 1,846 | 874 | 3,841 | 24,942 | 52,878 |
| Deville (fwd) | 2,348 | 2,925 | 2,697 | 10,139 | 108,546 | 107,315 |
| Allante | 85 | 92 | 75 | 282 | 1,404 | 4,059 |
| Total Cadillac | 4,557 | 6,197 | 4,733 | 18,337 | 181,701 | 200,760 |
| Cavalier | 7,558 | 9,402 | 7,631 | 31,676 | 271,280 | 233,957 |
| Camaro | 2,883 | 2,244 | 3,064 | 10,542 | 68,511 | 92,600 |
| Celebrity | 3,235 | 4,896 | 4,086 | 15,317 | 136,415 | 222,423 |
| Corsica/Beretta | 9,073 | 8,261 | 11,112 | 42,967 | 317,949 | 243,707 |
| Monte Carlo | 0 | 1,725 | 0 | 0 | 0 | 53,521 |
| Caprice | 4,228 | 3,799 | 4,057 | 17,543 | 186,999 | 138,453 |
| Corvette | 450 | 648 | 450 | 1,992 | 16,713 | 20,865 |
| Total Chevrolet | 27,535 | 27,935 | 30,400 | 119,639 | 997,837 | 1,006,586 |
| Calais | 3,623 | 2,241 | 3,407 | 14,238 | 85,495 | 86,648 |
| Firenza | 0 | 312 | 0 | 0 | 5,230 | 4,[illegible]3 |
| Cutlass Ciera | 1,225 | 323 | 1,289 | 5,106 | 19,802 | 100,808 |
| Cutlass Supreme | 2,245 | 1,600 | 0 | 6,422 | 103,067 | 58,334 |
| Toronado | 295 | 383 | 292 | 886 | 11,493 | 11,763 |
| 88 (fwd) | 3,483 | 4,007 | 3,147 | 12,797 | 115,572 | 130,575 |
| 88 (rwd) | 200 | 111 | 113 | 682 | 8,885 | 10,900 |
| Olds 98 | 1,317 | 1,725 | 1,067 | 4,818 | 54,526 | 53,255 |
| Total Oldsmobile | 12,568 | 10,742 | 9,335 | 44,949 | 404,150 | 495,687 |
| Sunbird | 2,628 | 1,429 | 2,320 | 10,609 | 60,822 | 67,171 |
| Grand Am | 5,280 | 5,037 | 5,181 | 22,828 | 175,752 | 181,013 |
| Firebird | 1,510 | 1,284 | 2,038 | 6,754 | 46,914 | 60,998 |
| Grand Prix | 4,253 | 0 | 4,122 | 17,333 | 101,474 | 0 |
| Pontiac 6000 | 2,700 | 0 | 3,199 | 12,468 | 64,264 | 58,771 |
| Bonneville | 2,909 | 3,991 | 2,676 | 11,355 | 85,610 | 97,830 |
| Safari/Parisienne | 175 | 139 | 178 | 674 | 6,074 | 7,202 |
| Fiero | 0 | 672 | 0 | 0 | 13,280 | 23,177 |
| Total Pontiac | 19,305 | 11,852 | 19,714 | 82,021 | 574,170 | 494,162 |
| GENERAL MOTORS | 76,801 | 68,744 | 75,930 | 314,767 | 2,455,547 | 2,583,372 |
| HONDA | 7,440 | 6,057 | 7,892 | 31,953 | 276,928 | 248,958 |
| Civic | 2,106 | 415 | 2,316 | 9,806 | 80,317 | 72,208 |
| Accord | 5,334 | 5,642 | 5,566 | 22,145 | 196,609 | 176,650 |
| MAZDA† | 4,750 | 136 | 4,289 | 19,918 | 99,614 | 483 |
| NISSAN | 2,870 | 2,298 | 2,902 | 12,133 | 84,106 | 100,156 |
| NUMMI | 100 | 3,522 | 0 | 4,484 | 111,119 | [illegible] |
| Corolla | 100 | 960 | 0 | 1,698 | 40,631 | [illegible] |
| Nova | 0 | 2,562 | 0 | 2,785 | 70,488 | [illegible] |
| VOLKSWAGEN | 0 | 1,267 | 0 | 0 | 35,595 | 44,964 |
| Golf/GTI | 0 | 567 | 0 | 0 | 30,042 | 36,035 |
| Jetta | 0 | 700 | 0 | 0 | 5,553 | 8,829 |
| Total Cars, U.S. | 148,876 | 142,216 | 147,496 | 617,962 | 5,185,370 | 5,345,614 |
| Total Cars, Canada | 21,263 | 16,321 | 20,719 | 86,139 | 803,170 | 570,208 |
| U.S., Canada Cars | 170,139 | 158,537 | 168,215 | 704,121 | 5,988,540 | 5,916,022 |
| U.S., Canada Cars and Trucks | 275,551 | 254,405 | 276,408 | 1,157,613 | 9,778,045 | 9,376,748 |

Weekly estimates may contain error of one or two units due to rounding.
†—Total includes the MX-6 and Ford Probe.

| CANADIAN CAR | Week Ended Oct. 1, 1988 | Week Ended Oct. 3, 1987 | Week Ended Sept. 24, 1988 | Sept. to Date | Jan. 1 to Oct. 1, 1988 | Jan. 1 to Oct. 3, 1987 |
|---|---|---|---|---|---|---|
| Eagle | 0 | — | 0 | 0 | 0 | — |
| Premier | 1,275 | — | 1,200 | 5,400 | 46,167 | — |
| CHRYSLER MOTORS | 1,275 | 114 | 1,200 | 5,400 | 46,167 | 4,141 |
| Escort | 0 | — | 0 | 0 | 0 | — |
| Lynx | 0 | — | 0 | 0 | 0 | — |
| Tempo | 3,265 | — | 3,200 | 12,716 | 131,998 | — |
| Topaz | 1,631 | — | 1,560 | 6,255 | 50,469 | — |
| Crown Victoria | 2,773 | — | 2,750 | 11,350 | 99,185 | — |
| Grand Marquis | 2,997 | — | 2,900 | 12,091 | 97,370 | — |
| FORD MOTOR CO. | 10,666 | 5,499 | 10,502 | 42,399 | 378,006 | 225,036 |
| Celebrity | 242 | — | 187 | 980 | 15,514 | — |
| Cutlass Ciera | 3,630 | — | 3,364 | 14,340 | 177,901 | — |
| Cutlass Supreme | 0 | — | 0 | 0 | 0 | — |
| Grand Prix | 0 | — | 0 | 0 | 0 | — |
| Pontiac 6000 | 0 | — | 0 | 0 | 29,676 | — |
| Regal | 4,000 | — | 4,300 | 17,560 | 120,577 | — |
| GENERAL MOTORS | 7,872 | 10,131 | 7,960 | 32,780 | 343,667 | 222,317 |
| Civic | 1,460 | — | 1,077 | 5,460 | 30,999 | — |
| Accord | 0 | — | 0 | 0 | 1,828 | — |
| HONDA | 1,460 | 415 | 1,077 | 5,460 | 32,827 | 16,972 |
| VOLVO | 0 | 226 | 0 | 0 | 4,513 | 7,722 |
| Total Cars, Canada | 21,263 | 16,321 | 20,719 | 86,139 | 803,170 | 570,208 |

| U.S. TRUCK☆ | Week Ended Oct. 1, 1988 | Week Ended Oct. 3, 1987 | Week Ended Sept. 24, 1988 | Sept. to Date | Jan. 1 to Oct. 1, 1988 | Jan. 1 to Oct. 3, 1987 |
|---|---|---|---|---|---|---|
| Caravan | 2,200 | — | 1,929 | 8,165 | 71,539 | — |
| Dakota | 2,300 | — | 2,813 | 10,014 | 79,615 | — |
| Mini-Ram Van | 300 | — | 239 | 1,089 | 10,100 | — |
| Pickups | 2,300 | — | 2,795 | 9,980 | 58,288 | — |
| Total Dodge | 7,100 | 9,095 | 7,777 | 30,228 | 219,711 | 214,879 |
| Cherokee | 4,400 | — | 3,818 | 17,762 | 136,998 | — |
| Commanche | 1,099 | — | 835 | 3,977 | 34,084 | — |
| Grand Wagoneer | 0 | — | 399 | 975 | 10,186 | — |
| Pickups | 0 | — | 0 | 0 | 0 | — |
| Wagoneer | 200 | — | 199 | 899 | 7,869 | — |
| Total Jeep | 5,600 | 4,811 | 5,170 | 23,602 | 189,054 | 198,241 |
| Voyager | 2,100 | — | 1,792 | 8,822 | 67,435 | — |
| Total Plymouth | 2,100 | — | 1,792 | 8,822 | 67,435 | — |
| CHRYSLER MOTORS | 14,800 | 13,874 | 14,739 | 62,452 | 476,209 | 383,117 |
| Aerostar | 5,020 | — | 5,530 | 21,321 | 155,109 | — |
| Bronco | 1,065 | — | 916 | 4,091 | 41,208 | — |
| Bronco II | 0 | — | 2,060 | 8,117 | 94,732 | — |
| Econoline | 5,599 | — | 5,532 | 22,562 | 179,099 | — |
| Heavy trucks | 1,275 | — | 1,311 | 5,407 | 49,736 | — |
| Light trucks | 11,947 | — | 9,828 | 44,016 | 288,947 | — |
| Ranger | 2,591 | — | 5,280 | 22,494 | 257,852 | — |
| Total Ford Div. | 27,354 | 32,736 | 30,427 | 128,009 | 1,146,677 | 1,118,005 |
| FORD MOTOR CO. | 27,354 | 32,736 | 30,427 | 128,009 | 1,146,677 | 1,119,005 |
| Astro | 3,500 | — | 4,000 | 15,029 | 132,598 | — |
| Blazer | 626 | — | 467 | 2,271 | 19,675 | — |
| Medium/Heavies | 0 | — | 491 | 1,891 | 15,239 | — |
| P-Model | 902 | — | 943 | 3,766 | 31,102 | — |
| Pickups | 8,514 | — | 9,980 | 34,977 | 266,545 | — |
| S-10 | 6,537 | — | 6,856 | 26,920 | 229,221 | — |
| S-10 Blazer | 4,033 | — | 4,144 | 16,749 | 125,386 | — |
| Sportsvan/Van | 2,437 | — | 2,004 | 9,186 | 72,149 | — |
| Suburban | 1,598 | — | 1,249 | 5,828 | 52,611 | — |
| Total Chevrolet | 28,147 | 18,275 | 30,162 | 118,346 | 944,469 | 831,729 |
| Jimmy | 187 | — | 186 | 858 | 5,704 | — |
| Medium/Heavies | 0 | — | 627 | 1,909 | 28,235 | — |
| P-Model | 118 | — | 70 | 486 | 4,133 | — |
| Pickups | 2,376 | — | 1,942 | 10,441 | 81,778 | — |
| S-15 | 1,633 | — | 1,680 | 6,416 | 52,170 | — |
| S-15 Jimmy | 1,087 | — | 906 | 4,377 | 35,231 | — |
| Safari | 877 | — | 1,007 | 3,775 | 33,755 | — |
| Suburban | 856 | — | 735 | 2,954 | 23,544 | — |
| Vandura/Rally Vans | 502 | — | 356 | 2,333 | 25,883 | — |
| Total GMC | 7,616 | 8,472 | 7,490 | 33,329 | 290,431 | 288,948 |
| GENERAL MOTORS | 35,763 | 24,747 | 37,660 | 149,675 | 1,234,881 | 1,120,672 |
| NAVISTAR | 1,800 | 1,585 | 1,744 | 7,146 | 64,707 | 55,630 |
| NISSAN | 1,390 | 2,034 | 1,412 | 5,862 | 70,808 | 66,579 |
| AM GENERAL* | 450 | 450 | 450 | 1,980 | 17,460 | 12,060 |
| MISCELLANEOUS* | 2,300 | 2,300 | 2,300 | 10,120 | 89,240 | 89,400 |
| Total Trucks, U.S. | 83,857 | 77,526 | 88,732 | 385,245 | 3,099,973 | 2,846,483 |

| CANADIAN TRUCK | Week Ended Oct. 1, 1988 | Week Ended Oct. 3, 1987 | Week Ended Sept. 24, 1988 | Sept. to Date | Jan. 1 to Oct. 1, 1988 | Jan. 1 to Oct. 3, 1987 |
|---|---|---|---|---|---|---|
| Caravan | 2,328 | — | 2,950 | 12,239 | 108,048 | — |
| Mini-Ram Van | 204 | — | 218 | 898 | 9,609 | — |
| Ram Wagon | 766 | — | 726 | 2,984 | 19,273 | — |
| Ram Van | 2,052 | — | 2,167 | 8,497 | 51,983 | — |
| Total Dodge | 5,952 | 5,029 | 6,063 | 24,606 | 188,913 | 297,088 |
| Voyager | 3,012 | — | 3,040 | 12,527 | 95,721 | — |
| Total Plymouth | 3,012 | — | 3,040 | 12,527 | 95,721 | — |
| Wrangler | 1,248 | — | 1,273 | 5,302 | 37,949 | — |
| Total Jeep | 1,248 | 817 | 1,273 | 5,302 | 37,949 | 26,121 |
| CHRYSLER MOTORS | 10,212 | 5,946 | 10,376 | 42,435 | 320,583 | 323,219 |
| FORD MTR. (L. trks.) | 3,649 | 3,364 | 3,477 | 14,016 | 121,075 | 112,416 |
| Light trucks | 3,688 | — | 3,683 | 15,401 | 115,962 | — |
| Vans | 1,524 | — | 1,387 | 6,046 | 43,949 | — |
| Total Chevrolet | 5,212 | — | 5,070 | 21,448 | 159,911 | — |
| Light trucks | 1,592 | — | 1,812 | 6,553 | 57,435 | — |
| Vans | 621 | — | 652 | 2,656 | 22,206 | — |
| Total GMC | 2,213 | — | 2,264 | 9,209 | 79,641 | — |
| GENERAL MOTORS | 7,425 | 5,905 | 7,334 | 30,657 | 239,252 | 171,364 |
| NAVISTAR | 270 | 257 | 274 | 1,138 | 8,622 | 7,269 |
| Total Trks., Canada | 21,555 | 18,342 | 21,461 | 88,246 | 689,532 | 614,261 |
| U.S., Canada Trks. | 105,412 | 95,868 | 110,193 | 453,492 | 3,789,505 | 3,460,724 |

☆—Includes station van production. *—Estimates.
Jeep includes commercial only. AM General includes government-contract vehicles.
Miscellaneous includes estimates for Mack, Volvo-White, Kenworth, Peterbilt, Freightliner, Mercedes-Benz, etc.
Weekly estimates may contain error of one or two units due to rounding.

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# Automotive News®

October 10, 1988

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## GM, UAW tap talent of all workers

### *Quality Network keyed to customer*

**By Michelle Krebs and Louise Kertesz**
AUTOMOTIVE NEWS STAFF REPORTERS

In its drive to improve customer satisfaction, quality and productivity, General Motors has launched an across-the-board program aimed at something missing from its past efforts — people.

The so-called Quality Network is a blueprint for GM to better focus on customer satisfaction at all levels of the corporation and with suppliers, dealers and car buyers.

The emphasis on quality and customer satisfaction is expected to be a key issue this week as GM's top 900 executives meet in Traverse City, Mich., for their annual planning-strategy session.

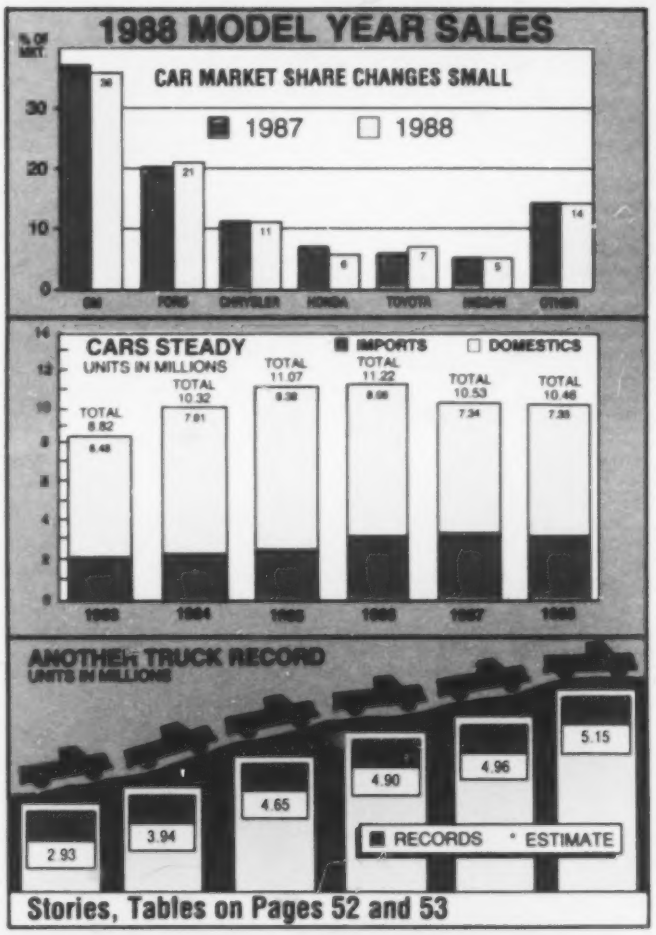
Under GM's new approach, quality is equated with customer satisfaction, and both are to be achieved by tapping into the talents of every person working for and with GM.

Meanwhile, in a three-year-old phase that became part of the larger program, an 80-member assembly strategy group, under the guidance of a Detroit-based consulting firm, has been developing sweeping plans to increase quality and productivity at 11 Buick-Oldsmobile-Cadillac Group plants.

The group's goals also include an overhaul of GM corporate culture, management style and people processes, according to Lee Sage, a partner at Arthur Young &. Co. and the lead consultant in the program.

At its own speed — but with data and ideas from all the other plants available to it — each B-O-C plant is following a "planning process model" developed by Arthur Young. The assembly strat-

see QUALITY, page 51




Stories, Tables on Pages 52 and 53

## Shake-up at Chrysler

### *3 departments turned into subsidiaries*

**By Louise Kertesz**
AUTOMOTIVE NEWS STAFF REPORTER

HIGHLAND PARK, Mich. — Chrysler Motors told about 200 employees at its headquarters last Wednesday that their departments became wholly owned subsidiaries of the company, effective Oct. 1.

Chrysler created three new companies from three departments in the administrative services area. But local UAW officials said units in those departments with UAW members are not included in the new companies.

Workers expressed concern last week about whether the move will reduce their wages, benefits or job security.

The separate companies created last week were: F.M. Group Inc.,

see SHAKE-UP, page 6

## Chrysler, Fiat test joint deals in Alfa venture

**By Mary Connelly and Richard Johnson**
AUTOMOTIVE NEWS STAFF REPORTERS
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Chrysler Corp.'s joint venture with Fiat to distribute Alfa Romeo in the United States is being viewed as a test that could lead to future cooperative projects.

The announcement came one week after Chrysler Motors Chairman Gerald Greenwald and Fiat Auto President Vittorio Ghidella signed a letter of intent at a private meeting during the Paris Auto Show (Automotive News, Oct. 3).

The two companies had been negotiating the deal for six months, Greenwald said.

Asked if the new venture could lead to a production agreement with Fiat in Europe, Greenwald said the possibilities are "wide open." He said the distribution agreement is a test of how well the Chrysler-Fiat relationship will work.

Fiat had previously been named by a Chrysler executive as one of the companies that could produce vehicles for the American maker in Europe.

However, Fiat officials in Italy say the recent talks with Chrysler have not included equity exchanges, co-production or distribution of Chrysler products in Italy.

"There were no other subjects, just this agreement," said a Fiat representative.

While the joint-venture operation will retain Alfa Romeo's 160 dealers and will add about 140 Chrysler-Plymouth dealers for 300 in all, Fiat's Alfa Romeo unit in Englewood Cliffs, N.J., will apparently be absorbed by the new combine, which will be the sole importer of Alfa Romeo product. The cars will be badged and sold as Alfas by all the dealers.

Sources say the venture will be directed by a six-member board, three representatives each from Chrysler and Alfa Romeo, but the company will be headed by a Chrysler executive. Indications last week pointed to Darrell L. Davis, Chrysler Division's general sales manager, as being named to head the new venture.

Serge Dermanian, chairman of the Alfa Romeo dealer council, and owner of High Performance Cars Inc. in Waltham, Mass., said he was told during a conference call to the dealer council last week that the new venture's president will replace Guiseppe Greco, current Alfa Romeo, Inc. president in the United States. It is not clear if Greco will be named a board member.

A Fiat spokesman said there should be no impact on Alfa's U.S. dealer body. "We will try to avoid overlaps," the spokesman said, adding that "the joint venture will decide where and how to integrate."

Greenwald said the yet unnamed venture will be a distribution company, "but day-to-day direction of the joint venture will be handled by Chrysler."

Chrysler-Plymouth dealers will be appointed, starting this spring,

see ALFA, page 51

## JIGSAW

### *Maugh's task is meshing Ford worldwide operations*

**By David Versical**
AUTOMOTIVE NEWS STAFF REPORTER

As job assignments go, Roger Maugh's latest in his 31-year career could be the one that helps reshape Ford Motor Co. in a way never imagined by the company's founder.

Since June, Maugh's assignment has been to make sure Ford's pieces fit together as the company links worldwide operations. It's a new position — and one that's been described as pivotal in Ford's unfolding global strategy.

"We have run into some pretty tough competitors in both Europe and Japan who come from a different heritage and are essentially competing worldwide

AUTOMOTIVE NEWS/JOE WILSEMS

ugh describes his role as a broker, a neutral party who will make sure two erations get together and iron out their differences

## U.S. Proton delayed as problems mount

**By Jim Henry**
AUTOMOTIVE NEWS STAFF REPORTER

Job One for export to the United States was to have rolled out the door of the Proton plant in Malaysia today, but the project has been put on hold until at least 1989, and perhaps indefinitely.

Technical and financial problems have contributed to the delay, but the Proton is also beset by bureaucratic wrangling over what direction the effort to export the car should take.

A Mitsubishi management team, which recently replaced the plant's original Malaysian managers, is reportedly in disagreement with the project's remaining Malaysian bosses and with New Jersey-based Global Motors, the would-be U.S. importer and distributor of the Proton.

"We're having a lot of communication problems with the factory," said Dan Prior, who heads the Proton project for Global Motors.

"Mitsubishi has always kind of looked down on this project and the progress we're making," he said.

see PROTON, page 6

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aks of Lexus, MW 3 series Page 2
GM divisions improve; Iacocca asks price cut Page 3
Fresh models for Nissan; Mercedes U.C. warranty Page 4

# GM divisions advance, save work

## *Hoglund praises parts quality, cost*

By Michelle Krebs
AUTOMOTIVE NEWS STAFF REPORTER

DETROIT — General Motors has not outsourced as many components as it had expected to because labor and management efforts have turned unprofitable operations into money makers.

William Hoglund, GM executive vice president in charge of the automotive components groups, said that GM was "incredibly surprised" by the cooperation of people working on products that were in trouble.

More than a year ago, GM began to evaluate every product line within its components groups. Each was graded on competitiveness, with the most weight given to quality and cost. They then were ranked by assigning a red, yellow or green light.

Forty percent were in the green category — world-class competitive. Ten percent were in the red category, with little chance of becoming competitive. Fifty percent were yellow, with a good chance of becoming competitive.

GM said the red operations would be closed or sold. It already has closed a Fisher Guide plant in Elyria, Ohio, and has targeted the Fisher Guide Fort Street plant in Detroit to close by the end of the 1989 model year.

Hoglund said many operations with products classified as yellow have come up with plans to become competitive, chiefly by eliminating waste.

Workers and management at a GM metal fabricating plant in Pittsburgh, which had been categorized as red, even devised a plan to take on a different kind of work, producing sheet-metal parts for past-model GM vehicles.

At a seating plant, the time from receiving raw material to shipping the finished part was reduced by 90 percent by reorganizing the way the seats are made and materials are delivered.

Hoglund said the traffic light process forced components operations to compare themselves to the best suppliers in the world.

RICK LIEDER

Hoglund: "We'd much rather give the people a chance to get competitive so we can capitalize on those assets rather than just willy-nilly throw them out"

"When we started the red, yellow, green process, we really were not certain what opportunities we had," he said.

"Some of the improvement programs have just been astounding," he said. "Have we made all of them yet? No. But the key is, the people have to have the opportunity to make them."

Hoglund said there is no management mandate that GM components operations automatically get business from GM's vehicle divisions. Sourcing decisions will continue to be based on quality, cost and other competitive factors.

GM's components operations will continue to be reviewed for competitiveness. None of the red, green and yellow ratings are in concrete, Hoglund said.

"Green will never stay constantly green, because there's going to be someone coming out with a better mousetrap," he said. "The challenge is to make sure that your organization has that mousetrap."

He also said there continue to be parts operations that fall into the red category, though he calls them a "very minor chunk of the business." Further resources are not likely to be put into them.

"There will always be reds," he said. "Reds exist today and will always exist but they will be given an opportunity. And at this very moment, there are opportunities for more greens."

Where there is a chance to turn an uncompetitive product around, the division will be given the opportunity to do so, he said.

"We'd much rather give the people a chance to get competitive so we can capitalize on those assets rather than just willy-nilly throw them out without giving them a chance," he said.

Hoglund took over as head of components operations, which employ about 200,000 people and have annual sales of about $30 billion, in July after serving as group executive of the Buick-Oldsmobile-Cadillac Group.

His first priority is to oversee the turnaround or the elimination of non-competitive operations. Once that is done, the groups will look for new businesses.

"If we can compete effectively in any segment of the market where we feel we can gain a strategic advantage for our vehicle divisions, that's something we have to look at," he said. "But the first thing we have to do is get competitive in the basic businesses we have now."

He said the components groups as a whole are profitable. However, he said the current status of the operations is less important then what is down the road.

"The explosion of the competition in the components arena is just like we're seeing on the car side," he said.

He said he is trying to instill a new attitude within the components groups.

"We're trying to get across to our people that change is healthy, change is important and it is the lack of change that makes us complacent," he said. "If we don't continuously change — look for opportunities and test ourselves against outside competition — the list of red parts will grow bigger and bigger and bigger."

"If we are aggressive and are competitively driven, the number of green parts will grow bigger."

# Iacocca to suppliers: Cut prices 1% for '89

DETROIT — Chairman Lee A. Iacocca has written to Chrysler's original-equipment suppliers requesting an "across-the-board price reduction of 1 percent" effective at the start of the 1989 model year.

The letter, dated Aug. 18, and addressed to chief executive officers of supplier companies, said the cost cuts were necessary to keep Chrysler and the suppliers competitive.

Many Chrysler suppliers contacted by Automotive News said they did not intend to comply with the request. Some said they might offer token price reductions. None expressed an obligation to comply with Iacocca's 1-percent request.

The suppliers based their reluctance on the fact that they have held the price line at Chrysler — as well as at Ford Motor Co. and General Motors — for two to three years and in some cases have reduced prices even as material costs have skyrocketed.

But the tone of Iacocca's letter was strong. It read, in part:

"For 1989 models, our price increases once again are modest and do not fully recover the higher costs we are incurring both in material and in keeping our products competitive in the market.

"We made a conscious decision to sacrifice profits in favor of higher sales. That's paid off for us, and for you. We've increased our share of market, and you've sold us more parts and materials. It's been a win-win proposition.

"But it has also been expensive, and we can't keep it up without your help. We've both shared in the benefits of Chrysler's incentives and aggressive pricing. Now I'm asking you to share part of the cost.

"I am asking you and our other suppliers for an across-the-board price reduction of 1 percent effective Job No. 1, 1989.

"One of our procurement and supply people will be contacting you in the next few days to ask for your commitment to this program, and I'm confident that you'll give it. It's absolutely vital if we're going to continue the progress we've made together through good times and bad. These are good times, and we need your commitment to keep them going.

"You don't like getting this letter, and I don't like writing it. But I've asked you to help share the sacrifices with us in the past; you've come through, and we're all healthier today because we shared the burden. That's how we'll stay healthy in the future, too."

Many supplier firms last week said they have yet to meet with Chrysler's procurement and supply staff concerning Iacocca's request.

Some suppliers said the last time they had heard from Iacocca was when he asked them for help in the form of price concessions and bond purchases during the auto company's government-bailout days of the late 1970s.

In 1987, Ford Motor Co. launched a program asking suppliers to strive for a 5 percent annual "productivity improvement" over a five-year period.

Exact percentages vary with products and materials, but generally are believed to be running in the 2 to 5 percent yearly range. The results in a number of cases have been price cuts for Ford and long-term production security for vendors.

Over the past year alone, suppliers say, prices of some materials have climbed as much as 30 percent.

## *Chrysler Mo. minivan plant on strike*

**FENTON, Mo. — Workers at Chrysler Motors' St. Louis No. 2 plant, which makes extended Caravan/Voyager minivans, went on strike Oct. 5 after negotiators for the company and UAW Local 110 failed to reach agreement on a local contract.**

**Local 110 President George Burr late last week predicted a short strike, and a Chrysler spokesman said management was "trying to get resolution as quickly as possible."**

**The strike deadline had been extended from Sept. 30; the local contract had expired Sept. 14.**

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63rd year—No. 5255

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Circulation Department
In Michigan (313) 446-0480
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Classified Ad Department (313) 446-6065
Display Ad Department (313) 446-6000
Editorial & Business Offices (313) 446-6000

AUTOMOTIVE NEWS (ISSN 0005-1551) is published weekly except semiweekly the fourth week in May at 1400 Woodbridge, Detroit, MI 48207. Second-class postage is paid at Detroit, MI and at additional mailing offices. Postmaster: Send address changes to AUTOMOTIVE NEWS, Circulation Department, 965 E. Jefferson, Detroit, MI 48207.


# Incentives stoke flames in Big 3 lease battle

By Edward Lapham
AUTOMOTIVE NEWS STAFF REPORTER

The incentive wars in retail leasing are heating up again, with emphasis on shorter-term leases that dramatically shorten the customer trade-in cycle as well as minimize finance losses.

Chrysler Motors has begun to roll out the Frequent Buyer Plan, a new 24-month lease program for Jeep-Eagle dealers while Ford Motor Credit Co. has cut short-term lease interest rates on some car and truck lines in its Red Carpet Lease AutumnFest program.

Just two weeks ago, General Motors launched its SmartLease by GMAC program that offers reduced interest rates and other incentives for open-end 48-month leases on certain models.

The Frequent Buyer Plan will be offered initially to the top 400 Jeep-Eagle dealers, said Robert Williams, Jeep-Eagle dealer marketing manager, although it is likely to be extended to Chrysler-Plymouth and Dodge dealers later.

The Frequent Buyer Plan is a lease where at the end of two years the customer can return the car and walk away, purchase the car or trade it for a new model, Williams said.

There will be no national campaign on the program and dealers are responsible for local advertising.

"It's a program where the factory, the dealer and customer benefit," said Williams. "Dealer grosses go up, customer satisfaction goes up and salesman turnover reduces by one half."

The Frequent Buyer Program uses 24-month leases — with or without a downpayment — to get customers into new vehicles twice as fast as conventional 48-month lease contracts.

The new Chrysler plan is similar to one Ford Motor Credit Co. has offered since 1982 when current Jeep-Eagle Group Vice President Joseph E. Cappy — then Lincoln-Mercury general marketing manager — tested the program at a large L-M dealership.

Ford's current two-year Red Carpet lease is simply called The Plan. It was developed in conjunction with Half-A-Car Inc., which has provided sales training for personnel at a number of Ford and Lincoln-Mercury dealerships, and also will train Jeep-Eagle dealer personnel in a similar effort.

Ted Ings, plan sales manager at Fette Ford, Clifton, N.J., said that dealership does nearly 100 of the short-term leases a month.

"You get your customer back in two years, he can't shop the trade anywhere else and the dealer gets a good supply of two-year-old used cars," Ings said.

Ings said that because he believes popularity of the two-year lease will spread, he has developed a new two-year lease sales training program called "Shorter is Better" in conjunction with retired Lincoln-Mercury dealer Bud Fette.

The Ford Credit AutumnFest program began late last week and runs through the end of the year. It includes 1989 Escort, Tempo, Taurus, Tracer, Topaz, Sable, Lincoln Mark VII, and Ranger, F-150, F-250 and F-350 models plus and 1988 and 1989 Scorpio models.

The reduced interest rates are 6 percent on leases up to 36-months and 8 percent on leases from 37 to 48 months, although Scorpio can go as long as 60 months at 8 percent. Vehicles in the program are not eligible for dealer reserve.

In conjunction, Ford started a cash-draw incentive with payoffs ranging from $150 to $1,000 for salespersons and from $30 to $250 for sales managers for every 36-month or shorter lease written on any 1987-89 model, excluding Probe and F-Super Duty models.

Ford Credit said that if dealers pass along the interest rate savings, consumers could save from $15 a month on a $9,000 Escort to as much as $50 a month on Lincoln Mark VII.

# Car sales rebound in Europe

## *August up 12% after dip in July*

**By Richard Johnson**
AUTOMOTIVE NEWS STAFF REPORTER

FRANKFURT, West Germany — After a slight decline in July, European new-car sales rebounded sharply in August and remain on target to eclipse Europe's record 1987 volume of 12.4 million units.

Fiat Group clings to the No. 1 spot in Europe, but second-place Volkswagen Group is narrowing the gap. VW has been Europe's sales leader for the past three years.

Industrywide sales rose in August rose 12.6 percent over the year-earlier month following a 2.7 percent decline in July, according to a 17-nation industry estimate compiled by Automotive News.

All four major markets registered gains during the month. Sales in West Germany, Europe's largest national market, improved 2.1 percent in August even though year-to-date numbers lag behind 1987's record pace.

Sales in the United Kingdom climbed 17.2 percent in August, while Italy increased 16.1 percent and the French market gained 8.2 percent compared with August 1987.

Overall sales for August totaled 1,150,600 units. Europe posted year-to-date sales of 9,010,800 units, 5.4 percent ahead of last year's 8,552,200.

At the recent Paris Auto Show, most industry executives forecast another record year in 1988 and showed new signs of optimism about 1989. Most had been predicting a slight downturn next year.

Fiat Group, including Lancia and Alfa Romeo, held first place with a 14.9 percent slice of the European pie for the January-August period. Group sales were 1,342,300 units through August, a 7.8 percent improvement over 1987.

Alfa Romeo, which is introducing its new 164 sedan in European markets outside Italy, has achieved the group's biggest gains. Eight-month sales were 150,500 units, 14 percent ahead of 1987.

Fiat's European share was 9.4 percent in August, while VW Group claimed 11.9 percent. The German manufacturer narrowed the gap between first and second place, outselling Fiat by nearly 30,000 units during the month.

VW, including Audi and Seat, held 14.4 percent of total European sales through August and has increased volume 2.6 percent in the eight-month period.

Peugeot SA, including Peugeot, Citroen and Talbot, continued to run a strong third with a 12.7 percent market share and year-to-date sales of 1,144,300 units. The company's 14.2 percent improvement this year is the best of Europe's six volume manufacturers.

Ford's sales inched up 1.5 percent for the January-August period on sales of 1,047,400 cars. The performance gave Ford fourth place and a 11.6 percent market share for the year.

August sales were up 19.5 percent for fourth-place General Motors. GM, which is preparing to launch its new Opel Vectra/Vauxhall Cavalier compact, is benefiting from the addition of a third shift at its Corsa/Nova small-car plant in Zaragoza, Spain.

Eight-month sales for GM were 964,100 units, good for a 10.7 percent market share. That was an increase of 3.7 percent over the same period last year.

Renault, which introduces its new R-19 subcompact this fall, holds 10 percent of the European market. Renault's sales were flat in August in the midst of product changeover and were up only 1.6 percent for the first eight months, to 901,300.

Among specialist makers, BMW continues to make waves with its new 5 series. BMW sales in August rose 38.3 percent compared with the same month in 1987. Full-year volume was up 17.7 percent to 242,300 — a 2.7 percent market share. Earlier in the summer, BMW sneaked past Toyota into 10th position in the European rankings.

Combined Japanese sales continued to reflect overall market growth. Sales were up 5.5 percent and market share was 11.2 percent, unchanged from the first eight months of 1987. Nissan remained No. 1 among Japanese brands in Europe with an 8.3 percent share and sales of 269,400.

Overall new-car sales in West Germany totaled 1,900,700 units for the January-August period, down 2.6 percent despite gains across most of Europe in August. Few analysts expect Germany to duplicate last year's record 2.9 million sales but a stronger-than-expected autumn could make it close.

The United Kingdom traditionally booms in August, when the new-car registration year changes. Sales rose 17.2 percent for the month and pulled the United Kingdom's year-to-date figure to 1,635,600 sales, a 12.1 percent increase over 1987.

The Italian market remains buoyant, with sales rising 16.1 percent in August. Year-to-date volume was up 8.4 percent to 1,517,500. France was 6.1 percent ahead of 1987 through August with sales totaling 1,418,500.

The Iberian Peninsula continues to be Europe's fastest-growing new-car sales region. Spain's two-year-old boom continued unabated as August volume rose 18.1 percent. With sales for the year up 15.1 percent at 723,400, the country is well on the way to its first 1-million-plus sales year.

Meanwhile, Portuguese sales jumped 109.4 percent to 17,900 units in August. Sales in Portugal increased to 136,900 units during the first eight months, a 61.7 percent improvement over the year-earlier period.

**EUROPEAN SALES**

| Manufacturer | 8 months 1988 | 1988 share* | 8 months 1987 | Volume Change '88 vs '87 |
|---|---|---|---|---|
| Fiat Group* | 1,342,300 | 14.9 | 1,245,100 | + 7.8 |
| VW-Audi-Seat | 1,297,500 | 14.4 | 1,264,500 | + 2.6 |
| PSA** | 1,144,300 | 12.7 | 1,002,300 | +14.2 |
| Ford | 1,047,400 | 11.6 | 1,032,400 | + 1.5 |
| General Motors*** | 964,100 | 10.7 | 930,100 | + 3.7 |
| Renault | 901,300 | 10.0 | 886,800 | + 1.6 |
| Austin Rover | 328,800 | 3.6 | 303,300 | + 8.4 |
| Mercedes-Benz | 306,500 | 3.4 | 300,300 | + 2.1 |
| Nissan | 269,400 | 3.0 | 248,800 | + 8.3 |
| BMW | 242,300 | 2.7 | 205,900 | +17.7 |
| Toyota | 241,600 | 2.7 | 235,600 | + 2.5 |
| Volvo | 184,800 | 2.1 | 182,400 | + 1.3 |
| Mazda | 174,100 | 1.9 | 159,700 | + 9.0 |
| Mitsubishi | 105,900 | 1.2 | 106,800 | – 0.9 |
| Honda | 100,600 | 1.1 | 92,600 | + 8.6 |
| Others | 359,900 | 4.0 | 355,600 | + 1.2 |
| Total | 9,010,800 | 100.0 | 8,552,200 | + 5.4 |

* Includes Alfa Romeo and Lancia
** Peugeot, Citroen, Talbot
*** Opel, Vauxhall, Isuzu, GM-U.S./Canada

**NEW-CAR SALES BY COUNTRY IN EUROPE**

| Country | Jan.-Aug. 1988 | Change on 1987 |
|---|---|---|
| West Germany | 1,900,700 | – 2.6 |
| United Kingdom | 1,635,600 | +12.1 |
| Italy | 1,517,500 | + 8.4 |
| France | 1,418,500 | + 6.1 |
| Spain | 723,400 | +15.1 |
| Netherlands | 374,600 | –13.1 |
| Belgium-Luxembourg | 344,900 | + 7.5 |
| Switzerland | 228,900 | + 7.1 |
| Sweden | 223,300 | +12.1 |
| Austria | 180,900 | + 5.2 |
| Portugal | 136,900 | +61.7 |
| Finland | 123,300 | +15.8 |
| Denmark | 66,900 | –24.2 |
| Norway | 49,200 | –38.4 |
| Ireland | 48,800 | +11.9 |
| Greece | 37,400 | + 4.6 |
| Total | 9,010,800 | + 5.4 |

# DeTomaso minimizes divorce from Chrysler

**By Luca Ciferri**
STAFF CORRESPONDENT

TURIN, Italy — While Maserati's unions fear layoffs because of the recent divorce from Chrysler, Chairman Alejando DeTomaso downplays the significance of the move.

"First of all, I don't accept the word 'divorce'," he said. "It was a separation of mutual consent. This separation came from decisions that both companies made in their best interest.

"I also want to make clear that this separation didn't happen suddenly. We started to rediscuss our contract with Chrysler in March 1988 and what was announced at the end of August was the result of several options.

"This separation isn't absolutely dramatic for Maserati. I don't see the need of layoffs. And I am not looking for other partners."

While DeTomaso admitted the company lost 26 billion lira ($18.7 million) in 1987 and that 1988 will also see a loss, he predicted Maserati will make money next year although he declined to give a number.

Production of Chrysler's TC coupe began Aug. 29 at a rate of 30 per day, DeTomaso said, adding, "Production figures for the TC coupe are 1,200 units in 1988, from 5,000 to 6,000 in 1989 and from 4,000 to 6,000 per year in 1990-92 for a grand total of 19,000 to 25,000. I give flexible numbers because production will be related to market demand. The new agreement with Chrysler obliges them to buy a total of 7,300 units."

DeTomaso said Maserati plans to build about 25 of its own cars per day with the goal of producing about 5,000 per year.

"Orders for 1987 were about 600 to 700 units more than our production of 4,300 to 4,400, so we already have room for more than 5,000 Maseratis per year," he said. "The problem is only to produce them, and I am sure we will reach this level in 1989."

While the United States is important in Maserati's future plans, DeTomaso said Italy is the company's top market.

"The Italian market remains the most important," he said. "Orders are 3,000 to 3,200 per year. The United States is second with 1,000 to 1,500 per year. As the third market, I consider the 'rest of the world' where we sell 1,250 to 1,300 units annually.

"The main market in the rest of the world is Switzerland, but Japan is growing very fast. We sold 220 units there in 1987, and I think we will reach 250 cars this year. In Japan, I see a good growth also for 1989."

DeTomaso said the issue of passive restraints in the United States is behind the company now. "This year, we also had problems delivering all the cars ordered in North America because of passive restraints," he said. "But all the 1989-model Maseratis will be OK, so our sales in the U.S. will be able to follow orders."

DeTomaso said he doesn't expect the new Karif to be exported to the United States.

He also said that no successor is being planned for the Royale — an updated version of what used to be the flagship Quattroporte. "This year, we will produce about 100 units (mainly destined for Japan), a level we never reached in the past," he said.

DeTomaso said the company is working on a new mid-engine coupe, and if it goes into production, it will receive a new engine "with more than six cylinders."

The company is also developing for the near term four-valve-per-cylinder technology for its current V-6s, he said.

Around 75 percent of Maserati sales are in Europe, and DeTomaso expects the 1992 open market within the European Community to help the company.

"With the European homologation, we will save money," he said. "Now, we have to make national homologations for every European country, and that is very expensive for the limited numbers we export."

# Domestic sales rise in S. Korea, but they won't reach 1988 goal

**By Oles Gadacz**
STAFF CORRESPONDENT

SEOUL, South Korea — The dollar value of 1988 domestic auto sales in South Korea is expected to surpass the 1987 total by 30 percent, although labor disputes have reduced the industry's sales forecast.

The value of domestic auto sales is expected to reach 6.8 trillion won ($9.5 billion) this year, a 30 percent increase over 1987's total of 5,212.6 trillion won. Domestic automobile production is expected to reach 1,231,000 units, an increase of 27 percent over last year's 967,500.

The estimated growth rates are considerably below the 50 percent increase originally targeted for 1988 by the industry. Automakers have scaled back production and sales targets for 1988, largely because of labor disputes that have hampered production.

However, sales of passenger cars remained brisk through July.

During the first seven months of the year, automobile sales totaled 186,893 units, an increase of 21 percent over the corresponding period last year, according to statistics compiled by the Office of National Tax Administration.

Details of the 1988 revised targets by the five automakers are as follows:

| Company | 1988 Output (1,000 units) | 1988 Sales (1 bil. won) | 1987 Output (1,000 units) | 1987 Sales (1 bil. won) |
|---|---|---|---|---|
| Hyundai Motor | 700 | 3,500 | 580.0 | 2,630.0 |
| Kia Motors | 300 | 1,500 | 192.0 | 1,026.0 |
| Daewoo Motor | 170 | 1,200 | 160.0 | 971.0 |
| Ssangyong Motor | 25 | 150 | 5.5 | 100.6 |
| Asia Motor | 36 | 450 | 20.0 | 285.0 |
| TOTAL | 1,231 | 6,800 | 967.5 | 5,212.6 |

Source: Hankook Ilbo

# NO TARIFF: *Australia, New Zealand adopt free-trade pact on cars, parts*

**By Pedr Davis**
SPECIAL CORRESPONDENT

SYDNEY, Australia — While the United States and Canada are on the brink of a new free-trade agreement, Australia and New Zealand are set to begin a similar pact for their auto industries on Jan. 1.

On that date, all duties on imported car components between the two will be removed, with tariffs on built-up cars disappearing a year later. Complete cars sent from Australia to New Zealand currently are subject to a 20-percent duty.

The exact effects of the change have not yet been measured but it is believed that Australian cars will be priced more competitively in New Zealand, while that country's component manufacturers will have unrestricted access to an industry building many more cars than their own.

Under the new arrangements, both countries are free to reduce or remove its third-country tariff on complete knockdown kits.

New Zealand has also agreed to remove import licensing fees on automotive goods beginning January 1990.

Australian automakers also will be able to use an unlimited amount of New Zealand motor vehicle components that will count towards local content requirements. Australia requires 85 percent local content to be considered a domestic vehicle.

# Safari wagon, big Mercury earn top ratings for crash protection

By Geoff Sundstrom
AUTOMOTIVE NEWS STAFF REPORTER

WASHINGTON — By analyzing insurance claims data for 207 automobiles, the Highway Loss Data Institute has ranked the relative crash protection each model offers in terms of injury claims and repair expense.

The institute rated injury claims for 1985-1987 models and collision claims for 1986-1987 models.

The two cars with the best results in the study for both injuries and crash damage were the full-sized Pontiac Safari station wagon and the Mercury Grand Marquis two-door. The models with the worst results were the Ford EXP, Nissan Pulsar, Mitsubishi Cordia and Mitsubishi Mirage.

The Mercedes-Benz 300-SDL and 560-SEL offered the lowest injury claims. The cars have an air bag as standard equipment.

The cars with the worst injury results in dollar terms were the Chevrolet Spectrum four-door, Chevrolet Sprint four-door, Hyundai Excel four-door, Ford EXP and Isuzu I-Mark four-door.

The Highway Loss Data Institute, which is affiliated with the Insurance Institute for Highway Safety, said injury and vehicle damage losses vary widely among car models, even among those of the same size and type. Generally, large domestic cars tend to have the fewest injury claims and damage results.

Exceptions to the general trend for injury protection among smaller cars were the Porsche 944 coupe, Saab 900 four-door and Volkswagen Vanagon.

## INJURY AND DAMAGE RATES

| Four-door models | Overall Injury | Collision |
|---|---|---|
| **Large** | | |
| Pontiac Bonneville[2] | 58 | 83 |
| Mercury Grand Marquis | 62 | 58 |
| Plymouth Gran Fury | 65 | 72 |
| Dodge Diplomat | 67 | 66 |
| Chevrolet Caprice/Impala | 67 | 61 |
| Buick Electra | 68 | 77 |
| Ford Crown Victoria | 69 | 56 |
| Oldsmobile Ninety-Eight | 69 | 71 |
| Chrysler Fifth Avenue | 74 | 72 |
| Buick LeSabre[2] | 74 | 77 |
| Oldsmobile Delta 88[2] | 87 | 75 |
| **Mid-size** | | |
| Oldsmobile Cutlass (rwd) | 76 | 66 |
| Toyota Camry[2] | 79 | 74 |
| Ford Taurus | 81 | 83 |
| Mercury Sable | 83 | 85 |
| Toyota Cressida[2] | 84 | 101 |
| Plymouth Caravelle | 85 | 66 |
| Oldsmobile Cutlass Ciera | 85 | 75 |
| Buick Century | 85 | 82 |
| Chrysler New Yorker | 87 | 82 |
| Volvo 240 | 87 | 91 |
| Honda Accord | 88 | 99 |
| Chrysler LeBaron GTS | 89 | 95 |
| Pontiac 6000 | 89 | 89 |
| Dodge Lancer | 90 | 96 |
| Chevrolet Celebrity | 92 | 72 |
| Dodge 600 | 93 | 73 |
| Cadillac Cimarron | 94 | 101 |
| Nissan Maxima[2] | 95 | 122 |
| Chrysler LeBaron | 96 | 75 |
| Peugeot 505 | 99 | 150 |
| Volkswagen Quantum | 103 | 154 |
| Audi 4000 | 104 | 163 |
| Nissan Stanza | 105 | 107 |
| Dodge Aries | 105 | 78 |
| Mitsubishi Galant | 108 | 131 |
| Mercury Topaz[2] | 112 | 81 |
| Ford Tempo[2] | 112 | 81 |
| Buick Skylark[2] | 113 | 91 |
| Plymouth Reliant | 115 | 51 |
| Buick Skyhawk | 120 | 74 |
| Pontiac Sunbird | 121 | 85 |
| Chevrolet Cavalier | 122 | 92 |
| Oldsmobile Firenza | 123 | 85 |
| **Small** | | |
| Saab 900 | 73 | 113 |
| Mazda 626[2] | 98 | 113 |
| Acura Integra | 100 | 144 |
| Volkswagen Golf | 100 | 101 |
| Plymouth Sundance | 103 | 95 |
| Volkswagen Jetta | 108 | 126 |
| Subaru GL 4wd | 113 | 124 |
| Honda Civic | 115 | 99 |
| Chevrolet Nova | 114 | 85 |
| Plymouth Horizon | 118 | 87 |
| Toyota Corolla | 120 | 90 |
| Dodge Shadow | 120 | 81 |
| Dodge Omni | 122 | 86 |
| Mazda 323 | 124 | 116 |
| Subaru DL/GL sedan | 133 | 111 |
| Ford Escort[2] | 140 | 81 |
| Nissan Sentra | 140 | 115 |
| Dodge Colt | 140 | 123 |
| Mitsubishi Tredia | 142 | 170 |
| Chevrolet Chevette | 143 | 93 |
| Renault Alliance/Encore | 145 | 106 |
| Plymouth Colt | 149 | 123 |
| Pontiac 1000 | 158 | 115 |
| Isuzu I-Mark | 163 | 108 |
| Hyundai Excel | 167 | 120 |
| Chevrolet Sprint | 167 | 105 |
| Chevrolet Spectrum | 178 | 102 |
| **Two-door models** | | |
| **Large** | | |
| Mercury Grand Marquis | 57 | 51 |
| Chevrolet Caprice | 70 | 68 |
| Oldsmobile Ninety-Eight | 72 | 84 |
| Ford Crown Victoria | 76 | 47 |
| **Mid-size** | | |
| Oldsmobile Cutlass (rwd) | 86 | 81 |
| Honda Accord[2] | 89 | 107 |
| Oldsmobile Cutlass Ciera | 90 | 85 |
| Buick Century | 90 | 76 |
| Pontiac Grand Prix[2] | 95 | 95 |
| Buick Regal[2] | 95 | 87 |
| Chevrolet Monte Carlo | 96 | 110 |
| Pontiac 6000 | 97 | 90 |
| Chrysler LeBaron[2] | 100 | 91 |
| Ford Thunderbird | 101 | 109 |
| Pontiac Grand Am[2] | 105 | 103 |
| Chevrolet Celebrity | 106 | 80 |
| Mercury Cougar | 107 | 110 |
| Buick Somerset[2] | 113 | 96 |
| Plymouth Reliant | 114 | 81 |
| Dodge Aries | 117 | 85 |
| Oldsmobile Firenza | 123 | 91 |
| Mercury Topaz[2] | 128 | 103 |
| Pontiac Sunbird | 128 | 128 |
| Ford Tempo[2] | 129 | 99 |
| Buick Skyhawk | 129 | 102 |
| Chevrolet Cavalier | 136 | 119 |
| **Small** | | |
| Saab 900 | 89 | 153 |
| Honda Prelude[2] | 96 | 126 |
| Volkswagen GTI | 96 | 109 |
| Volkswagen Golf | 100 | 116 |
| Acura Integra | 102 | 130 |
| Honda Civic | 103 | 96 |
| Mazda 626 | 103 | 146 |
| Mazda 323 | 104 | 104 |
| Subaru hatchback | 108 | 110 |
| Volkswagen Jetta | 109 | 128 |
| Plymouth Sundance | 109 | 106 |
| Toyota Celica | 118 | 141 |
| Dodge Shadow | 119 | 124 |
| Toyota Tercel | 122 | 94 |
| Nissan 200-SX | 124 | 159 |
| Volkswagen Scirocco | 124 | 228 |
| Plymouth Colt | 127 | 117 |
| Dodge Colt | 135 | 116 |
| Isuzu Impulse[2] | 138 | 163 |
| Toyota Corolla | 141 | 149 |
| Chevrolet Chevette | 142 | 97 |
| Renault Alliance/Encore | 143 | 122 |
| Pontiac 1000 | 143 | 95 |
| Plymouth Turismo | 144 | 141 |
| Dodge Charger | 147 | 148 |
| Mitsubishi Mirage | 150 | 155 |
| Ford Escort[2] | 150 | 100 |
| Nissan Sentra | 152 | 131 |
| Mitsubishi Cordia | 152 | 225 |
| Hyundai Excel | 155 | 117 |
| Nissan Pulsar | 157 | 146 |
| Yugo | 159 | 100 |
| Chevrolet Spectrum | 161 | 116 |
| Chevrolet Sprint | 162 | 104 |
| **Sports & specialty models** | | |
| **Large** | | |
| Mercedes SDL/SEL series[2] | 42 | 137 |
| BMW 735i[2] | 50 | 188 |
| Jaguar XJ-6 | 54 | 126 |
| Cadillac Brougham (4-dr.) | 62 | 82 |
| Cadillac Fleetwood/Deville | 68 | 86 |
| Mercedes 260E/300D/E[2] | 68 | 130 |
| Lincoln Town Car | 69 | 90 |
| Cadillac Fleetwood/Deville (2-dr.) | 84 | 91 |
| **Mid-size** | | |
| Saab 9000 | 51 | 150 |
| Volvo 740/760 SW | 58 | 100 |
| Acura Legend (4-door) | 60 | 102 |
| BMW 5-Series | 68 | 154 |
| Cadillac Seville | 68 | 104 |
| Lincoln Continental | 75 | 96 |
| Lincoln Mark VII | 76 | 102 |
| Toyota Supra | 81 | 153 |
| Buick Riviera | 81 | 113 |
| Volvo 740/760 (4-door) | 81 | 110 |
| Cadillac Eldorado | 82 | 111 |
| Audi 5000 (4-door) | 82 | 154 |
| Mercedes 190D/E[2] | 91 | 160 |
| BMW 318i/325 (4-door) | 91 | 187 |
| BMW 318i/325 (2-door) | 93 | 197 |
| Merkur XR4Ti | 100 | 159 |
| Ford Mustang convertible | 103 | 133 |
| Pontiac Firebird | 119 | 172 |
| Ford Mustang | 127 | 140 |
| Chevrolet Camaro | 128 | 162 |
| **Small** | | |
| Mercedes 300/560 SL convertible[2] | 60 | 133 |
| Porsche 944 coupe | 60 | 257 |
| Chevrolet Corvette | 88 | 215 |
| Mazda RX-7 | 91 | 184 |
| Nissan 300-ZX 2+2 | 91 | 172 |
| Volkswagen Cabriolet | 95 | 124 |
| Nissan 300-ZX | 98 | 172 |
| Toyota MR2 | 124 | 189 |
| Pontiac Fiero | 125 | 155 |
| Honda Civic CRX | 128 | 134 |
| Ford EXP | 164 | 155 |
| **Station wagons & passenger vans** | | |
| **Large** | | |
| Pontiac Parisienne/Safari | 44 | 45 |
| Buick Electra | 48 | 89 |
| Buick LeSabre | 52 | 65 |
| Oldsmobile Custom Cruiser | 55 | 63 |
| Ford Crown Victoria | 57 | 63 |
| Mercury Grand Marquis | 58 | 78 |
| Chevrolet Caprice | 59 | 83 |
| Dodge Caravan | 62 | 55 |
| Plymouth Voyager | 63 | 54 |
| GMC Safari van | 65 | 58 |
| Ford Aerostar | 69 | 65 |
| Chevrolet Astro van | 70 | 53 |
| **Mid-size** | | |
| Volvo 240 | 58 | 77 |
| Ford Taurus | 61 | 71 |
| Pontiac 6000 | 63 | 61 |
| Mercury Sable | 64 | 72 |
| Chrysler LeBaron | 69 | 71 |
| Buick Century | 70 | 76 |
| Oldsmobile Cutlass Ciera | 71 | 74 |
| AMC Eagle | 78 | 47 |
| Chevrolet Celebrity | 82 | 63 |
| Dodge Colt Vista | 93 | 83 |
| Dodge Aries | 93 | 76 |
| Plymouth Reliant | 93 | 72 |
| Pontiac Sunbird | 94 | 74 |
| Chevrolet Cavalier | 103 | 83 |
| Plymouth Colt Vista | 104 | 98 |
| Oldsmobile Firenza | 106 | 81 |
| **Small** | | |
| Volkswagen Vanagon | 65 | 73 |
| Toyota van | 78 | 82 |
| Honda Civic 4wd | 85 | 68 |
| Subaru DL/GL 4wd | 86 | 95 |
| Nissan Stanza | 87 | 85 |
| Toyota Tercel 4wd | 93 | 75 |
| Subaru DL/GL | 97 | 95 |
| Honda Civic | 98 | 76 |
| Toyota Tercel | 103 | 73 |

[1] Injury results based on 1985-87 models with manual safety belts; 1988 models of the same cars have either automatic belts or air bags as standard equipment and may, therefore, have better injury claims experience than the earlier models. Collision results can be expected to remain about the same.

[2] Injury results based on models equipped with air bags. Current models of these cars also have automatic restraints, so the injury results should be consistent among model years. Many additional 1988-89 models — and all 1990 models — will be equipped with air bags or automatic safety belts.

[3] Injury results based on models equipped with automatic belts. Current models of these cars also have automatic restraints, so the injury results should be consistent among model years. Many additional 1988-89 models — and all 1990 models — will be equipped with air bags or automatic safety belts.

NOTE: Injury results are stated in terms of the frequency of insurance claims filed under Personal Injury Protection Coverages for 1985-87 models. Collision results are presented in terms of the average loss payment per insured vehicle year for 1986 and 1987 models. All results are stated in relative terms, with 100 representing the average for all cars. Less than 70, substantially better than average; 70-79, better than average; 80-120, average; 121-130, worse than average; and greater than 130, substantially worse than average.

SOURCE: Highway Loss Data Institute


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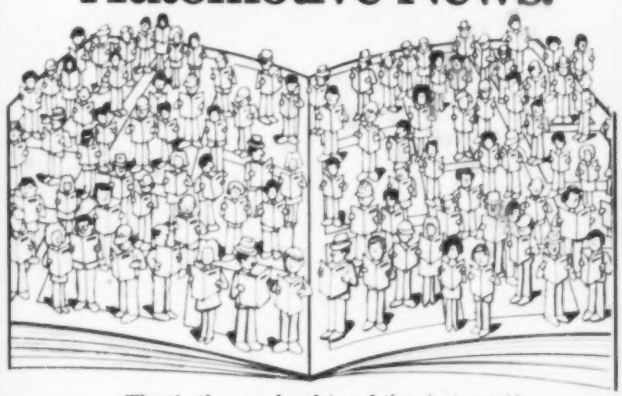

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# Training site for Infiniti rises in Ariz.

By Francis J. Gawronski
AUTOMOTIVE NEWS STAFF REPORTER

CARSON, Calif. — Nissan's Infiniti Division has started construction of a $5 million National Training Center in Scottsdale, Ariz.

The two-story, 27,000-square-foot building, which will also house a model dealership when completed in April 1989, will serve as headquarters for Infiniti's comprehensive, first-phase dealer training program. The facility will incorporate all dealer sales, service and management functions, said William R. Bruce, Infiniti vice president and general manager.

As a model for all future Infiniti dealerships across the United States, Bruce said the Scottsdale facility will be used to test and fine-tune dealership design, materials and operating systems.

Approximately 65 to 75 Infiniti dealerships will be built prior to the new division's sales launch in late 1989, Bruce said. Each dealership will be based on the National Training Center's concept and design.

Bruce acknowledged that second-phase dealers will be the chief beneficiaries from the research in fine-tuning dealership design, "although there will be first-phase dealers whose facilities will still be in the building process next April."

"When we do learn things," he said, "we will immediately pass them along to the other dealers as they build their facilities."

When the facility is completed, key Infiniti dealership personnel will be invited to attend training sessions, which are designed to build a uniform approach to customer satisfaction throughout the Infiniti dealership network, said Richard R. Lueders, Infiniti national parts and service manager.

"Our goal is to have every dealership incorporate the same high-quality systems and procedures," Lueders said. "This uniform approach will help dealers reduce operating costs, increase efficiency and improve profitability."

Shortly before the introduction of the new Infiniti cars, Bruce said the training facility will be converted into a functional dealership and sold to Herbert C. Pell III and Michael J. Heims, who will operate it as an Infiniti dealership in Scottsdale.

Personnel from second-phase Infiniti dealerships will be trained in another training facility that will be built in the Los Angeles area.

"We're already looking at a site in Los Angeles," Bruce said. "In fact, we initially looked at Los Angeles and due to several things, such as timing and what we call the perfect setting and location, we ended up here (Scottsdale) because we thought this had all the criteria, especially the timing criteria.

"But now that we have more time, we have been looking in the greater metropolitan Los Angeles area," Bruce said.

"We may do something similar there in terms of either building the full-scale facility, or we might go into a commercial park and duplicate something like the Universal Studio stage for the facility and use that," he said. "But we will have a national training capability in Los Angeles."